

**COGNITIVE DISENGAGEMENT SYNDROME AND  
PSYCHOSOCIAL FUNCTIONING OF CHILDREN WITH  
AUTISTIC SYMPTOMS: ROLE OF PARENTING STYLES**

**BY**

**Faryal Khan**



**NATIONAL UNIVERSITY OF MODERN LANGUAGES  
ISLAMABAD**

**2025**

# **Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms: Role of Parenting Styles**

**By**  
**Faryal Khan**

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENT FOR THE DEGREE OF

**MASTER OF PHILOSOPHY**

**In Applied Psychology**

**To**

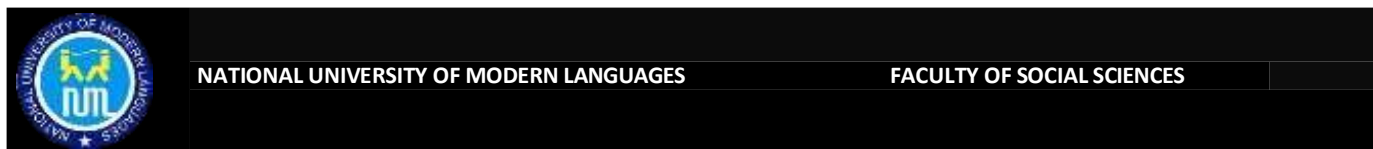
**DEPARTMENT OF PSYCHOLOGY**

**FACULTY OF SOCIAL SCIENCES**



**NATIONAL UNIVERSITY OF MODERN LANGUAGES, ISLAMABAD**

**© Faryal Khan, 2025**



## THESIS AND DEFENSE APPROVAL FORM

The undersigned certify that they have read the following thesis, examined the defense, are satisfied with the overall exam performance, and recommend the thesis to the Faculty of Social Sciences for acceptance.

**Thesis Title:** Cognitive Disengagement Syndrome and Psychosocial Functioning of

Children with Autistic Symptoms: Role of Parenting Styles

**Submitted by:** Faryal Khan

**Registration #:** 50-MPhil/Psy/S23

Master of Philosophy

Applied Psychology

Dr. Tasnim Rehna

\_\_\_\_\_  
Signature of Research Supervisor

Prof. Dr. Muhammad Riaz Shad

Name of Dean (FSS)

\_\_\_\_\_  
Signature of Dean (FSS)

\_\_\_\_\_  
Date

## AUTHOR'S DECLARATION

I, Faryal Khan

Daughter of Khadim Shah

Registration # 50-MPhil/Psy/S23

Discipline Applied Psychology

Candidate of **Master of Philosophy** at the National University of Modern Languages do hereby declare that the thesis “**Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms: Role of Parenting Styles**” submitted by me in partial fulfillment of MPhil degree, is my original work, and has not been submitted or published earlier. I also solemnly declare that it shall not, in future, be submitted by me for obtaining any other degree from this or any other university or institution.

I also understand that if evidence of plagiarism is found in my thesis/dissertation at any stage, even after the award of a degree, the work may be cancelled, and the degree revoked.

---

Signature of Candidate

FARYAL KHAN

---

Name of Candidate

---

Date

## ABSTRACT

**Title:** Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms: Role of Parenting Styles

The present study was designed to explore cognitive disengagement syndrome in relation with psychosocial functioning of children having autistic symptoms with a particular focus on the influence of different parenting styles. The study was conducted into two phases. The first phase comprised two stages: Stage I was translation of the study scales into Urdu language and Stage II was pilot study aimed at establishing the psychometric properties of the study scales. Second phase was main study focusing the hypotheses testing on a sample of parents (N= 180) of autistic children including 84 boys and 96 girls aged 6-14 years (M= 10.91, SD=2.88), data were collected from different autism centers of Islamabad and Rawalpindi. Following purposive sampling technique, parent report versions of Cognitive Disengagement Syndrome Scale, Autism Spectrum Screening Questionnaire, Weiss Functional Impairment Rating Scale, and Parenting Style-Four Factor Questionnaire were used to measure study variables. Findings revealed a significant positive correlation between cognitive disengagement syndrome and psychosocial impairments (\*\* $p < .001$ ), i.e., family, school-learning, school-behavior, life skills, child self-concept, social activities and risky activities and parenting styles (authoritarian, permissive or uninvolved) (\*\* $p < .001$ ). Regression analysis showed that cognitive disengagement syndrome positively predicts psychosocial impairments (\*\* $p < .001$ ). Analysis for group differences based on gender indicated that boys exhibit higher degree of cognitive disengagement syndrome symptoms and psychosocial impairments than girls. Moderation analyses further showed that though parenting styles may relate to cognitive disengagement syndrome and psychosocial impairments, they do not act as a moderator in this context. However, separate moderation analyses for maternal and paternal parenting styles revealed non-significant ( $p > .05$ ) interaction except for maternal authoritarian parenting style which exacerbated ( $B = .93$ ,  $p < .001$ ) the impact of cognitive disengagement syndrome on psychosocial functioning of autistic children. Findings have been discussed from the lenses of culture and previous studies along with highlighting the potential implications for stakeholder i.e. parents, clinicians, schools and autism centers in the country.

**Keywords:** Cognitive Disengagement Syndrome, Psychosocial Functioning, Parenting Styles

## Table of Content

|                                                                              |           |
|------------------------------------------------------------------------------|-----------|
| <b>THESIS AND DEFENSE APPROVAL FORM.....</b>                                 |           |
| <b>AUTHOR’S DECLARATION .....</b>                                            |           |
| <b>CHAPTER I .....</b>                                                       | <b>1</b>  |
| <b>INTRODUCTION.....</b>                                                     | <b>1</b>  |
| 1.1 Context of the Study .....                                               | 1         |
| 1.2 Cognitive Disengagement Syndrome .....                                   | 3         |
| 1.3 Psychosocial Functioning.....                                            | 4         |
| 1.4 Parenting Styles .....                                                   | 7         |
| 1.5 Rationale of the Study.....                                              | 9         |
| 1.6 Research Objectives.....                                                 | 11        |
| 1.7 Research Questions.....                                                  | 11        |
| 1.8 Research Hypotheses .....                                                | 12        |
| 1.9 Conceptual Framework of the Study .....                                  | 13        |
| 1.10 Significance of the Study .....                                         | 14        |
| 1.11 Operational Definition .....                                            | 14        |
| <b>CHAPTER II.....</b>                                                       | <b>17</b> |
| <b>LITERATURE REVIEW .....</b>                                               | <b>17</b> |
| 2.1 Cognitive Disengagement Syndrome .....                                   | 17        |
| 2.1.1 Cognitive Disengagement Syndrome and Psychosocial Deficits.....        | 20        |
| 2.1.2 Cognitive Disengagement Syndrome and Internalizing Symptoms .....      | 22        |
| 2.1.3 Cognitive Disengagement Syndrome and Neuropsychological Deficits ..... | 24        |
| 2.1.4 Cognitive Disengagement Syndrome and Autism Spectrum Disorder.....     | 26        |
| 2.2 Psychosocial Functioning and Autism Spectrum Disorder.....               | 30        |
| 2.3 Parenting Styles .....                                                   | 32        |
| 2.3.1 Parenting Styles and Autism Spectrum Disorder .....                    | 34        |
| 2.3.2 Parenting Styles with Reference to Pakistani Context.....              | 36        |
| 2.4 Theoretical Framework of the Study .....                                 | 41        |
| 2.4.1 Biopsychosocial Model (BPS) .....                                      | 41        |
| <b>CHAPTER III .....</b>                                                     | <b>44</b> |
| <b>RESEARCH METHOD.....</b>                                                  | <b>44</b> |
| 3.1 Research Design .....                                                    | 44        |

|                                                                 |                                                                            |           |
|-----------------------------------------------------------------|----------------------------------------------------------------------------|-----------|
| 3.2                                                             | Research Phase .....                                                       | 44        |
| 3.2.1                                                           | Phase I: .....                                                             | 44        |
| 3.2.2                                                           | Stage I: Translation of the Study Scales .....                             | 44        |
| 3.2.3                                                           | Stage II: Establishing Psychometric Properties of the Study Measures ..... | 47        |
| 3.3                                                             | Objectives.....                                                            | 47        |
| 3.4                                                             | Sample.....                                                                | 47        |
| 3.5                                                             | Instruments .....                                                          | 48        |
| 3.5.1                                                           | Cognitive Disengagement Syndrome– Parent Report .....                      | 48        |
| 3.5.2                                                           | Weiss Functional Impairment Rating Scale – Parent Report .....             | 49        |
| 3.5.3                                                           | Autism Spectrum Screening Questionnaire .....                              | 50        |
| 3.5.4                                                           | Parenting Style Four Factor Questionnaire .....                            | 50        |
| 3.7                                                             | Results of the Pilot Testing .....                                         | 52        |
| 3.8                                                             | Discussion .....                                                           | 60        |
| 3.9                                                             | Phase II: Main Study.....                                                  | 62        |
| 3.10                                                            | Objectives.....                                                            | 62        |
| 3.11                                                            | Hypotheses .....                                                           | 62        |
| 3.12                                                            | Sample.....                                                                | 63        |
| 3.13                                                            | Procedure.....                                                             | 63        |
| 3.14                                                            | Statistical Plan .....                                                     | 64        |
| <b>CHAPTER IV</b>                                               | <b>.....</b>                                                               | <b>65</b> |
| <b>ANALYSIS AND INTERPRETATION OF THE DATA.....</b>             |                                                                            | <b>65</b> |
| 4.1                                                             | Descriptive Statistics of Study Sample .....                               | 65        |
| 4.2                                                             | Relationship between the Study Variables.....                              | 68        |
| 4.3                                                             | Regression Analysis.....                                                   | 70        |
| 4.4                                                             | Moderation Analysis .....                                                  | 81        |
| <b>CHAPTER V</b>                                                | <b>.....</b>                                                               | <b>88</b> |
| <b>SUMMARY, DISCUSSION, CONCLUSION AND RECCOMENDATIONS.....</b> |                                                                            | <b>88</b> |
| 5.1                                                             | Summary .....                                                              | 88        |
| 5.2                                                             | Discussion .....                                                           | 88        |
| 5.2.1                                                           | Effects of Demographics on the Study Variables.....                        | 94        |
| 5.3                                                             | Conclusion.....                                                            | 97        |
| 5.4                                                             | Limitations and Suggestions.....                                           | 99        |

|                                                    |            |
|----------------------------------------------------|------------|
| 5.5 Future Implications of the Present Study ..... | 99         |
| <b>References.....</b>                             | <b>101</b> |
| <b>APPENDICES .....</b>                            | <b>128</b> |



## LIST OF TABLES

|            |                                                                                                                                               |    |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----|
| Table 3.1  | Demographic Characteristics for Pilot Study (N = 50)                                                                                          | 52 |
| Table 3.2  | Descriptive Statistics and Alpha Reliability Coefficients of Variables for Pilot Study (N= 50)                                                | 54 |
| Table 3.3  | Item-total Correlation analysis for Cognitive Disengagement Syndrome (N=50)                                                                   | 55 |
| Table 3.4  | Inter Item Correlation of Weiss Functional Impairment Scale (N=50)                                                                            | 56 |
| Table 3.5  | Item Total Correlation of Autism Spectrum Screening Questionnaire (N=50)                                                                      | 58 |
| Table 3.6  | Item Total Correlation of Parenting Style Four Factor Questionnaire (N=50)                                                                    | 59 |
| Table 4.1  | Demographic Characteristics for Main Study (N = 180)                                                                                          | 65 |
| Table 4.2  | Descriptive Statistics and Alpha Reliability Coefficients of Variables under Study (N= 180)                                                   | 67 |
| Table 4.3  | Correlation Analysis of Study Variables (N= 180)                                                                                              | 68 |
| Table 4.4  | Simple linear Regression Analysis of Cognitive Disengagement Syndrome on Psychosocial Functioning (N = 180)                                   | 70 |
| Table 4.5  | Multiple Regression Analysis on Psychosocial Functioning by Authoritarian, Authoritative, Permissive and, Uninvolved Parenting Styles (N=180) | 72 |
| Table 4.6  | Mean, Standard Deviations and t-values of Study Variables based on Gender (N = 180)                                                           | 73 |
| Table 4.7  | Mean, Standard Deviations and t-values of Study Variables based on Age Groups (N = 180)                                                       | 75 |
| Table 4.8  | Mean, Standard Deviations and t-values of Study Variables based on Relationship Status (N = 180)                                              | 76 |
| Table 4.9  | Mean, Standard Deviations and t-values of Study Variables based on Family System (N = 180)                                                    | 78 |
| Table 4.10 | Mean, Standard Deviations and t-values of Study Variables based on any one else in family affected by Diseases (N = 180)                      | 79 |

|            |                                                                                                                                                                                                 |    |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Table 4.11 | Moderating effect of Authoritarian Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms (N=180)         | 82 |
| Table 4.12 | Moderating effect of Permissive Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms (N=180)            | 83 |
| Table 4.13 | Moderating effect of Authoritative Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms (N=180)         | 84 |
| Table 4.14 | Moderating effect of Uninvolved Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms (N=180)            | 85 |
| Table 4.15 | Moderating effect of Mother Authoritarian Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms (N= 180) | 86 |

**LIST OF FIGURES**

|            |                                                                                                                                                                                        |    |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Figure 1.1 | Conceptual Framework of the Study                                                                                                                                                      | 13 |
| Figure 4.1 | Moderating effect of Mother Authoritarian Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms | 87 |

**LIST OF ABBREVIATIONS**

|       |                                  |
|-------|----------------------------------|
| ATIAN | Authoritarian                    |
| ATIV  | Authoritative                    |
| CDS   | Cognitive Disengagement Syndrome |
| FIT   | Functional Impairment            |
| PS    | Parenting Styles                 |
| PSF   | Psychosocial Functioning         |
| PSIV  | Permissive                       |
| SCT   | Sluggish Cognitive Tempo         |
| UINV  | Uninvolved                       |

## LIST OF APPENDICES

|                     |                                                                                 |     |
|---------------------|---------------------------------------------------------------------------------|-----|
| <b>APPENDIX- A:</b> | Consent Form and Demographic Sheet                                              | 129 |
| <b>APPENDIX- B:</b> | Cognitive Disengagement Syndrome-Parent Report                                  | 130 |
| <b>APPENDIX- C:</b> | Weiss Functional Impairment Rating Scale- Parent Report                         | 131 |
| <b>APPENDIX- D:</b> | Autism Spectrum Screening Questionnaire                                         | 135 |
| <b>APPENDIX- E:</b> | Parenting Style-Four Factor Questionnaire                                       | 137 |
| <b>APPENDIX- F:</b> | Consent Form and Demographic Sheet (Urdu Form)                                  | 141 |
| <b>APPENDIX- G:</b> | Cognitive Disengagement Syndrome-Parent Report (Urdu Translated Scale)          | 142 |
| <b>APPENDIX- H:</b> | Weiss Functional Impairment Rating Scale- Parent Report (Urdu Translated Scale) | 143 |
| <b>APPENDIX- I:</b> | Autism Spectrum Screening Questionnaire (Urdu Translated Scale)                 | 147 |
| <b>APPENDIX- J:</b> | Parenting Style-Four Factor Questionnaire (Urdu Translated Scale)               | 149 |

## ACKNOWLEDGEMENTS

*In the name of ALLAH ALMIGHTY, the most merciful and beneficent*

First and foremost, I owe deep sense of gratitude to ALLAH ALMIGHTY, the most Gracious and Merciful, for His countless blessings, including the strength, perseverance, and guidance that have brought me to the completion of this thesis. Without His grace, none of this would have been possible.

I would like to extend my heartfelt gratitude to my supervisor, **Dr. Tasnim Rehna** for her steadfast support, insightful guidance, and invaluable encouragement throughout this journey. Her dedication and belief in my abilities have been a beacon of inspiration, even during moments of difficulty. I pray for her continued health, success, and happiness.

My sincerest thanks go to my parents and siblings for their unwavering love, prayers, and support. Their encouragement has been my anchor, and their belief in me has given me the strength to overcome every obstacle. I am forever indebted to them for their unconditional support and endless prayers.

I am also deeply grateful to my friends, Muneeba, Kainat and Anwar for standing by me during challenging times. Their kindness, encouragement, and presence have been a source of comfort and strength throughout this process. Thank you for your unconditional support and for being such an important part of this research and so my life.

To everyone who contributed to this journey in ways big or small, your help and kindness will always be remembered with gratitude.

**DEDICATED**

**TO**

**Ammi & Papa**

May ALLAH ALMIGHTY's grace and blessings always surround them. Ameen.

## CHAPTER I

### INTRODUCTION

#### 1.1 Context of the Study

The past two decades have witnessed rapid growth in studies examining cognitive disengagement syndrome in both children and adolescents (Bahmani et al., 2025). Cognitive disengagement syndrome (CDS) formerly called sluggish cognitive tempo (SCT) (Becker et al., 2023). Recently, studies have been preferred the term cognitive disengagement syndrome over sluggish cognitive tempo (Kacmaz et al., 2024), because it has face validity, observable, indicate impairments and express symptoms more generally. It does not over-pathologies typical behaviors, considered an official disorder and doesn't overlap with previous terms (Mayes, Becker, Calhoun, & Waschbusch, 2023).

In line with previous studies, the present study uses the term cognitive disengagement syndrome rather than sluggish cognitive tempo. As researches on cognitive disengagement syndrome has been linked to challenging psychosocial difficulties which impact on daily functioning and social abilities (Flannery, Becker, & Luebke, 2016), and linked with impairments in neurocognitive, academic functioning or sleep disturbance (Creque & Willcutt, 2021). It is not surprising that few studies have examined cognitive disengagement syndrome in autism spectrum disorder (Fayden et al., 2022).

Autism is an overlooked health issue in Pakistan, like in many other developing countries, due to low level of awareness among public (Furrukh & Anjum, 2020). A study has been estimated that in the last 30 years, the rate of autism spectrum disorder increases up to 3 folds. According to another study, the global prevalence of autism spectrum disorder is approximately 0.6%, and Asia accounting rate is 0.4%, which shows almost high in number (Mumtaz et al., 2022). There is even



no reliable data available regarding the prevalence of autism spectrum disorder in Pakistan, because individuals with psychiatric disorders avoids seeking help from health professionals due to social stigma which leads to underreporting and a lack of proper medical care. According to the Autism Society of Pakistan, the estimated rate of children who are suffering from this disease are more than 350,000 (Asghar et al., 2023). Therefore, it must be crucial to bring attention of physicians to this specific disease because field experts confirm that the autism disorder is rising over time (Noor et al., 2021).

Being a parent of an autistic children can bring about a unique set of parenting challenges and stressors (Clauser et al., 2021). The child with autism poses challenges on a daily basis which can feel exhausting for parents and put a lot of stress on the entire family (Nadeem et al., 2024). As parenting styles are considered an essential factor in the child development and well-being. A specific style such as authoritative, authoritarian, permissive and neglectful parenting have been linked to various outcomes in children such as emotional regulation, academic performance, social competence, self-esteem and behavioral problems, including those with developmental disorders like autism spectrum disorder (Kuppens & Ceulemans, 2019).

Cognitive disengagement syndrome has been linked to psychosocial difficulties, especially social withdrawal, internalizing problems such as anxiety and depression (Smith & Suhr, 2021). These challenges are different from those associated with attention deficit hyperactivity disorder. Hence, cognitive disengagement syndrome is recognized as a separate construct which require attention more specifically (Vuijk, Deen, Sizoo, & Arntz, 2018). Thus, the purpose of the present study is to explore cognitive disengagement syndrome in relation with psychosocial functioning of children with autistic symptoms with a particular focus on the influence of different parenting

styles. It aims to enhance a deeper understanding of how parenting styles can act as moderator to improve the psychosocial functioning of children with autistic symptoms.

## **1.2 Cognitive Disengagement Syndrome**

Cognitive disengagement syndrome before called as sluggish (slow) cognitive (mental) tempo (speed) (Kofler et al., 2019), demonstrate a distinct set of symptoms with an emotional and mental patterns (Mueller et al., 2014), with good psychometric properties, identified by factor analytic studies. (Burns, Montaña, Becker, & Servera, 2023). Cognitive disengagement syndrome is commonly described by 13 symptoms including apathetic, easily confused, fogginess, loses train of thought, daydreams, lost in thoughts, sluggish, drowsy, slow thinking, spacey, stares blankly, lethargic, underactive. Also, it can be measured reliably with strong test retest reliability, internal consistency and moderate interrater reliability by using such measures (Becker & Barkley, 2018).

In the next wave of cognitive disengagement syndrome, researches were interested to examine how it relates with other problems (Fredrick et al., 2024), specifically linked with functional impairment like trouble in managing emotions, academic difficulties, daytime sleepiness and social challenges (Tamm et al., 2024). Particularly, studies on cognitive disengagement syndrome symptoms in adults are linked to impairments with executive functioning and cause challenges in managing emotions, relationships, school, and daily life even more than attention deficit hyperactivity disorder symptoms alone (Miller, Shapiro, & Becker, 2024).

Some studies have been considered cognitive disengagement syndrome as a unidimensional construct while other focused on distinct dimensions of cognitive disengagement syndrome symptoms i.e., drowsy, unmotivated, slow thinking and lack of attention (Tamm et al., 2016). Also, cognitive disengagement syndrome characteristics highly correlate with several psychiatric and neurodevelopmental disorders including autism spectrum disorder, internalizing

disorders and developmental delays, according to nationally representative studies (Burns, Becker, Montario, & Servera 2024).

Considering the nature of cognitive disengagement syndrome, the construct may also relate to the poor recognition of its neuropsychological functions. It would be expected that individuals show high in cognitive disengagement syndrome symptoms indicates neuropsychological impairments, particularly in areas of attentiveness or staying focused and processing speed (Smith & Suhr, 2021). By clarifying the cognitive framework in neuropsychological studies provide important support for the validity of cognitive disengagement syndrome as a construct (Creque & Willcutt, 2021).

According to the previous studies, symptoms of cognitive disengagement syndrome have been linked to greater global and social impairments in individuals with autism. Early estimates suggest that approximately 30–37% of autistic individuals exhibit clinically significant levels of parent-reported cognitive disengagement syndrome traits. Even after accounting for co-occurring attention deficit hyperactivity disorder symptoms, cognitive disengagement syndrome has been associated with higher levels of internalizing symptoms and more social challenges in autistic children and adolescents (Carpenter et al., 2024).

### **1.3 Psychosocial Functioning**

Psychosocial functioning refers to the integration of how psychological processes influence social behaviors with its effect on quality of life and overall functioning, encompasses several areas i.e., working at a job, independent living, maintaining physical well-being and healthy relationships (Scheeren, Buil, Howlin, Bartels, & Begeer, 2022). Functioning can be described by specific areas e.g., physical functioning, school and role functioning, occupational, and social functioning (Lam, Filteau, & Milev, 2011). The general factors concerned with human society like

social processes and social structure that effect on the individual, referred as social factors while, factors which influence mental states i.e., individual level processes and meanings referred as psychological factors. These two words are generally combined to form the term ‘psychosocial’. The shorthand combination of psychosocial term refers to both social and psychological aspects highlighting its impact on social processes usually mediated through psychological understanding (Upton, 2020).

Studies from the literature have linked cognitive disengagement syndrome symptoms to a number of psychosocial problems involves social difficulties, correlates with mental illness, academic problems and neurocognitive deficits (Reinvall et al., 2017), also relates to other several major functional impairments such as social isolation and withdrawal, sleep disturbance and higher prevalence of overall impairment, according to a comprehensive meta-analytic studies (Creque & Willcutt, 2021). As cognitive disengagement syndrome is associated with significant functional impairments indicates a distinct psychopathology. Therefore, it is crucial to given the potential for deeper understanding of cognitive disengagement syndrome and its related challenges (Smith & Suhr, 2021). Studies have been found that cognitive disengagement syndrome predicts poorer social skills in children, specifically in terms of social functioning when considering teacher ratings only. Because of, teachers sufficiently observe children’s interactions with their peers and particular types of peer difficulties related to cognitive disengagement syndrome (Becker & Barkley, 2018).

Moreover, cognitive disengagement syndrome symptoms in adults exhibit poor quality of life in domains of psychological, physical and overall well-being which predicts higher rates of chronic emotional and physical challenges (Truskey, 2021). Also, linked to problems in emotion regulation due to its association with both social issues and depressive symptoms (Becker &

Barkley, 2018), therefore, it highlights a significant link with emotional dysregulation (Flannery et al., 2016). Cognitive disengagement syndrome related with higher overall functional challenges, significant everyday executive functioning impairments (Valero et al., 2021), emotional dysregulation (Taylor et al., 2020), and academic functioning such as poorer study skills, lack of self-control, learning skills, self-reported difficulty on time reading tasks, and lower self-reported grades (Jourjade, Mashhadi, Bigdeli, & Tabatabai, 2024).

Psychosocial functioning serves a major role in school context regarding students' performance and wellbeing within and beyond school settings. The most related environment (e.g., home and school) also impacts and alter their psychosocial functioning (Rayes, Cook, Greshman, Makol, & Wang, 2019). While being unable to attend school might affect student's attitude towards learning, over time it can lead to negative effects on students' academic progress, mental health and social growth which results in dropping out of school. Mostly researches have been reported high rates of behavioral and emotional issues examining school refusal behavior in autism students (Munkhaugen, Gjevik, Pripp, Sponheim, & Diseth, 2017). The behavioral and emotional issue experiencing by students is specifically essential for teachers but they usually lack in required training in supporting students regarding these problems. Hence, giving the intervention to autistics students must not only be effective but also practical and acceptable to teachers (Spear, Cohen, Romer, & Albin, 2013).

In autistic individuals, psychosocial difficulties such as forming relation with others and pursuing fulfilling career paths could affect their sense of value which leads to low self-esteem and psychological issues (Nguyen, Ownsworth, Nicol, & Zimmerman, 2020). In typically developing children's, self-esteem and positive or negative perception of their own value is a key component of psychological functioning (McCauley, Harris, et al., 2019). There are social and

communication deficits associated with autism that may disrupt with social identity processes and hinder the development of a sense of identification (Cooper, Smith, & Russell, 2017).

By now, the considerable evidence has shown that the children and adolescents with autism spectrum disorder having more severe autistic symptoms incorporate to more psychosocial difficulties such as less adaptive functioning, school refusal behavior, lack of friendships and minimum involvement in structured free time activities (Lassen et al., 2022). Further, evidence suggest that due to the high functional variations in autism encompassing a serious impact on individual's abilities to handle daily life challenges even the young individuals with autism spectrum disorder show delaying in practical skills development. Moreover, they experience worse kind of everyday functioning abilities and show greater socialization and communication impairments (Schmidt et al., 2015).

#### **1.4 Parenting Styles**

The word parenting is originated from 'pario,' meaning life (Kooraneh & Amirsardari, 2015). The process or the state of being a parent, involves nurturing, defending, or supervising a child in development patterns is known as parenting. While parenting styles demonstrate a set of parental behaviors and attitudes usually used by parents to handle their children behaviors characterize by the patterns of warmth, punishment, responsiveness and control (Sahithya, Manohari, & Vijaya, 2019). Through the influence of their environment, children were primarily molded and guided by their parents to grow into adulthood. Parenting is a complex relationship between child and parents involves several distinct attitudes and behaviors which affects child's growth and emotional well-being by expressing parent's behaviors. Parenting styles describe the structured behavioral patterns often use by parents for the guidance and socialization of their child (Lucero, 2017). The parenting styles purpose is to assist parents in facilitating their children,

reflecting their attitudes toward them, while simultaneously enforcing rules and expectations effectively (Kooraneh & Amirsardari, 2015).

Parenting styles influence the relational characteristics found between parents and their children therefore, it may be more effective to examine the emotional environment of the family rather than focusing solely on individual parenting patterns (Garcia, Fuentes, & Serra, 2020). Parents use different styles in interacting with their child based on the continuum of responsiveness and demandingness levels. The term demandingness refers to strict behavioral regulations while responsiveness refers to parent's affection and guidance for the child (Hunt, 2013). Baumrind (1966, 1967, 1971), a pioneer of parenting styles researches. To identify the differences in parent's general behaviors, three parenting (authoritarian, authoritative, permissive) styles were included in her typology (Kuppens & Ceulemans, 2019).

By using the continuum of responsiveness and demandingness, Maccoby and Martin identified four styles of parenting i.e., authoritarian style represents more demandingness and less responsiveness with low levels of autonomy. Authoritative style shows more demandingness and more responsiveness, in terms of demandingness they set clear expectations and boundaries while also being responsive, helpful, caring and grant their child autonomy. Permissive parenting style refers to less demands and more responsiveness by giving their child a high level of autonomy. The fourth style, neglectful characterize by low demands and limited response to the child needs. Maccoby and Martin (1983), further elaborated the permissive style into indulgent and indifferent styles. Permissive-indifferent also known as uninvolved or neglectful parents, showing disengagement with low levels of both demandingness and responsiveness. Whereas, permissive indulgent parents referred as permissive parents, they show great involvement in their children lives with more responsiveness (Sahithya et al., 2019).

Based on Maccoby and Martin study, Baumrind (1989, 1991) added a fourth parenting style in her typology: the neglectful parenting style, also referred as uninvolved parenting style. A four typology classification of child raising patterns has been determined according to these two dimensions, authoritarian parents are strict but not warm, authoritative parents are both warm and strict, permissive parents are warm but not strict, and uninvolved parents are neither warm nor strict (Kuppens & Ceulemans, 2019).

Since parenting style is a typology, rather than a coupling of demandingness and responsiveness, each parenting style is different from the sum of its components. Additionally, distinct on the continuum of demandingness and responsiveness, parenting styles are also differing in the third domain, in terms of psychological control. Psychological control involves control attempts to intrude into the emotional and psychological development of a child through parenting patterns such as love withdrawal, disappointments and guilt induction. Psychological control is the primary difference between authoritative and authoritarian parenting style. Both styles determine more demandingness, expecting appropriate behaviors, following parental rules from their child. In addition, parents who use authoritarian style expect that their judgements, rules and regulations followed by their child without any demands in return. Conversely, authoritative parents are highly responsive to their child needs and accessible to give and take with more explanations. Hence, showing high equality in behavioral control by both styles, authoritarian parents are high in psychological control, whereas authoritative parents show less psychological control (Mahapatra & Batul, 2016).

### **1.5 Rationale of the Study**

Over the past years, Cognitive disengagement syndrome has been considered to be an independent disorder and has provided significant insight into its association with attention deficit



hyperactivity disorder as well as anxiety, depression and other internalizing disorders. However, a few number of studies have investigated cognitive disengagement syndrome in relation with autism spectrum disorder (Becker, Luebbe & Willcutt, 2019; McFayden et al., 2022; Waschbusch, 2021). Parenting styles, although, have also been studied extensively in association with autism spectrum disorder (Hutchison, Feder, Abar, & Winsler, 2016) have largely been ignored to draw their empirical link with cognitive disengagement syndrome and resultant psychosocial functioning. The present study could provide novel insights into how different parenting styles influence the psychosocial functioning of children with cognitive disengagement syndrome? Thus, the moderating role of parenting styles with its relation between cognitive disengagement syndrome and psychosocial functioning of children with autistic symptoms remains an important area of studying in Pakistan.

Furthermore, the present study is interested in providing insights into how specific parenting styles (authoritative, authoritarian, permissive, and uninvolved) can either buffer or exacerbate the challenges faced by children with cognitive disengagement syndrome and autistic symptoms in terms of psychosocial functioning? Therefore, the purpose of the present study to find out how cognitive disengagement syndrome affects the way parents raise their children with autistic symptoms? This study aims, to identify the relation between parenting styles and cognitive disengagement syndrome to understand its impact on child's psychosocial functioning with autistic symptoms.

Though, cognitive disengagement syndrome has been studied with autism spectrum disorder among children and that too in western culture (Becker, Luebbe & Willcutt, 2019; McFayden et al., 2022). None of the indigenous studies have specifically explored the distinct role

of cognitive disengagement syndrome in the psychosocial functioning of children with autistic symptoms, particularly in relation to parenting styles. The present study could provide empirical evidence for this relationship and could highlight the domains of psychosocial functioning most affected by cognitive disengagement syndrome among children with autistic symptoms.

### **1.6 Research Objectives**

1. To study the relationship between cognitive disengagement syndrome, psychosocial functioning, and parenting styles among children with autistic symptoms
2. To examine the moderating role of parenting styles in the relationship between cognitive disengagement syndrome & psychosocial functioning among children with autistic symptoms
3. To study the role of demographic characteristics (i.e., gender, age, relation with child, family system, parental education level, parental working status, and family disease history) in study variables

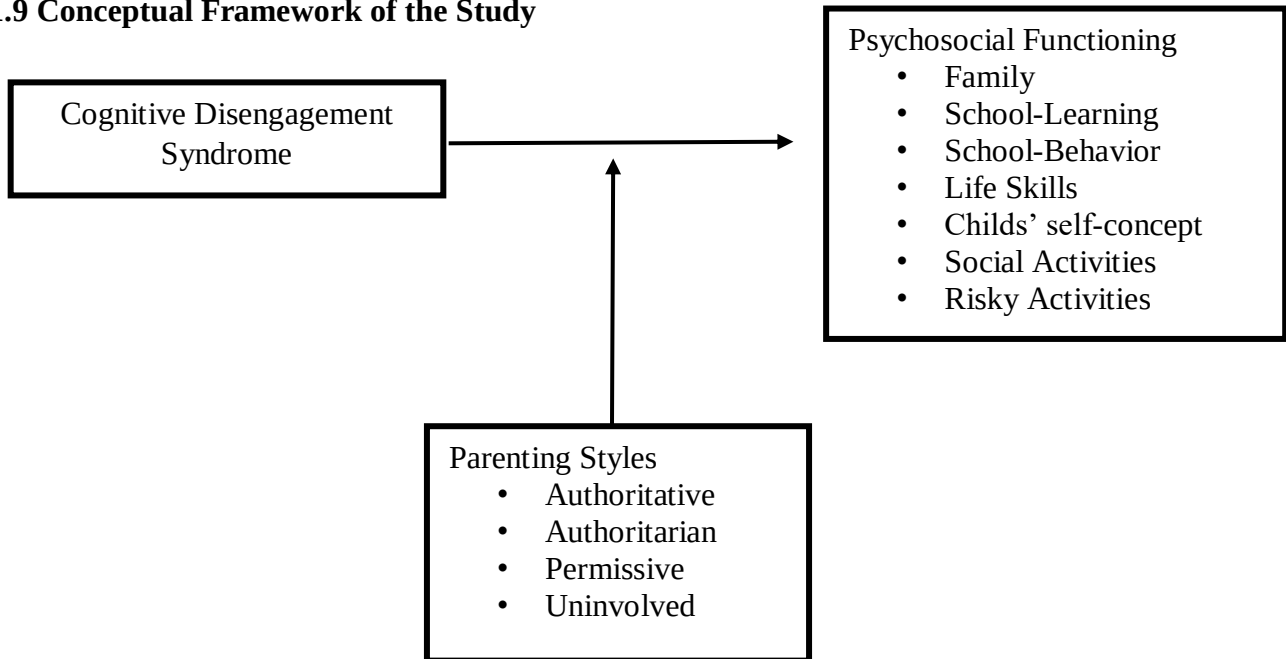
### **1.7 Research Questions**

1. Does cognitive disengagement syndrome affect psychosocial functioning?
2. Does parenting style (authoritarian, authoritative, permissive and uninvolved) moderate the relation between cognitive disengagement syndrome and psychosocial functioning?
3. Which of the following areas of psychosocial functioning (e.g., family dynamics, life skills, behavior, learning, social skills, child self-concept and risky activities) are most affected by cognitive disengagement syndrome?

### **1.8 Research Hypotheses**

1. There is a negative relationship between cognitive disengagement syndrome and psychosocial functioning among children with autistic symptoms
2. Cognitive disengagement syndrome is positively related with authoritarian, permissive and uninvolved parenting styles
3. Cognitive disengagement syndrome is negatively related with authoritative parenting style
4. Psychosocial functioning is negatively related with authoritarian, permissive and uninvolved parenting styles
5. Psychosocial functioning is positively related with authoritative parenting style
6. Authoritarian, permissive and uninvolved parenting styles exacerbate the impact of cognitive disengagement syndrome on psychosocial functioning among children with autistic symptoms
7. Authoritative parenting style buffer the impact of cognitive disengagement syndrome on psychosocial functioning among children with autistic symptoms

### 1.9 Conceptual Framework of the Study



*Figure 1.1 Framework of the study*

The conceptual framework of this study seeks to layout the relationship between cognitive disengagement syndrome and psychosocial functioning. The key to this framework is the parenting styles which serves a moderator, by given specific styles (authoritative, authoritarian, permissive and uninvolved) either intensifying or buffering the relationship between cognitive disengagement syndrome and psychosocial functioning. Like, in the presence of authoritative parenting the impact of cognitive disengagement syndrome on psychosocial functioning may be less severe. Conversely, the authoritarian, permissive or uninvolved parenting could amplify the negative effects of cognitive disengagement syndrome on psychosocial functioning.

Better coping strategies and enhanced social skills are usually encouraged in supportive environment (Garcia et al., 2020). While social isolation, emotional dysregulation and anxiety leading to poorer psychosocial outcomes demonstrate that cognitive disengagement syndrome effects social functioning and emotional regulation (Russell et al., 2022). Maybe, parenting styles

can either alleviate or intensify the degree to which cognitive disengagement syndrome affects overall psychosocial functioning.

### **1.10 Significance of the Study**

The study holds crucial insights in Pakistani context, because of a limited research on autism spectrum disorder (Furrukh & Anjum, 2020). As autism increasing overtime and cannot be easily diagnosed leading to delayed diagnosis and intervention with minimal public awareness therefore, it is necessary to bring attention and required clinical analysis (Noor et al., 2021). Further, no empirical studies have examined cognitive disengagement syndrome, particularly in relation with parenting styles. Thus, the present study has tried to fill this gap by examining cognitive disengagement syndrome in association with parenting styles and psychosocial functioning of children with autistic symptoms.

Meanwhile, studying how different parenting styles (authoritative, authoritarian, permissive and uninvolved) interact with cognitive disengagement syndrome to determine whether certain parenting styles buffer or worsen its impact can help clinicians develop targeted interventions focused on addressing challenges related to parenting styles, while enhancing family functioning and child well-being.

### **1.11 Operational Definition**

#### **Cognitive Disengagement Syndrome**

Cognitive disengagement syndrome before known as sluggish cognitive tempo comprises symptoms such as hypoactive, mental disorientation and excessive daydreaming, and associated with impairments in everyday living, emotional regulation and social interactions (Miller, Shapiro,

& Becker, 2024). In the current study, the Cognitive Disengagement Syndrome Scale-Parent Report: introduced by Becker (2015), was used to measure cognitive disengagement syndrome symptoms. The participants who scored higher on this scale depicts high level of cognitive disengagement syndrome symptoms and the participants who scored lower depicts low level of cognitive disengagement syndrome symptoms.

### **Psychosocial Functioning**

Psychosocial functioning emphasizes a person's ability to perform daily activities and engage in interpersonal relationships in a way that fulfills both their needs and those of the community in which they reside (Mehta, Mittal, & Swami, 2014). For psychosocial functioning, Weiss Functional Impairment Rating Scale-Parent Report (WFIRS-P) was used, introduced by Weiss (2000). This scale measures the psychosocial skill impairments, therefore lower score on each dimension will be considered as better psychosocial functioning and vice versa.

### **Autism Spectrum Disorder**

Autism spectrum disorder, a neurodevelopmental condition is characterized by repetitive behaviors, restricted interests and social interactions difficulties (Hodges, Fealko, & Soares, 2020). Autism Spectrum Screening Questionnaire (ASSQ) was used to assess autism spectrum disorder, developed by Ehlers, Gillberg, & Wing, (1999).

### **Parenting Styles**

Parenting style encompasses certain attitudes and behaviors of parents toward their children, also with the emotional settings in which these interactions are expressed (Bi et al., 2018).

In the present study, parenting styles are evaluated using Parenting Styles Four Factor Questionnaire (PS-FFQ), developed by Shyny (2017).

## **CHAPTER II**

### **LITERATURE REVIEW**

Cognitive disengagement syndrome as proposed by Barkley (2013), has been a focus of researches in past years, primarily emerged from attention-deficit hyperactive disorder studies (Pilon, Corkum, & Joyce, 2017). Although, cognitive disengagement syndrome is correlated with attention deficit hyperactivity disorder and has been observed in approximately 39–59% of clinically referred children and adolescents, but recognized as an independent factor in attention deficit hyperactivity disorder studies (Fredrick, Becker, & Langberg, 2022). Earlier findings indicate that some specific symptoms repeated frequently within attention deficit hyperactivity disorder considering daydreaming, mental disorientation, not able to alert mentally, slow motor activities and staring into space. These symptoms make up the construct of cognitive disengagement syndrome recognized as a clear and distinct measure and has a strong support in the literature studies as a separate factor (Vu, Thompson, Willcutt, & Petrill, 2019).

#### **2.1 Cognitive Disengagement Syndrome**

Cognitive disengagement syndrome refers to a pattern of developmentally inappropriate and persistent behaviors that persist for at least six months and significantly impairs one or more major areas of functioning (Waschbusch, 2021). The behavioral symptoms classify two characteristics described as; (1) motor domain characterized by hypo activity, underactivity or prolonged periods of diminished, inactive or dormant movements as well as slow, sluggish, or delayed motor activities while, (2) cognitive domain including problems with disorientation, daydreaming, staring, withdrawal, & drowsy appearance and disengagement of attentional and intentional cognitive processes from the ongoing external situation, flow of external events & task requirements. Due to significant co-occurrence and uniformity of these symptoms with each other



and contribute to their relation with domains of other psychopathologies, the grouping of these symptoms in two domains recognized as a syndrome (Barkley, Willcutt, & Jacobson, 2022).

The studies on cognitive disengagement syndrome identified significant items assessing three potential core subdivisions anticipated as a potential attribute which can serve as the baseline for studying cognitive disengagement syndrome. These symptoms including: hypo activity characterize by general activities of an individual's energy level and adaptability, mental confusion identifies impairments in individual's cognitive instability, conceptual ambiguity and mental processes and, daydreaming refers to a conditions in which a person shows lack of focus and get immersed with in their own ideas instead of connecting with the outside world (Kacmaz, Celik, Saglam, Kay, & Inci, 2024). Given the evidence that cognitive disengagement syndrome symptoms emerge in early childhood manifest in both children and adults, therefore it is crucial to identify the specific cognitive frameworks and processes underlying these symptoms. While severe symptoms can lead to impairment in child academic progress and affects crucial areas of functioning (Kofler et al., 2019), usually related with deficits in everyday functioning, such as emotional difficulties (e.g., anxiety and depression) and social issues (Yung, Lai, Chan, & Ng, 2021).

Cognitive disengagement syndrome has been considerably explored through interdisciplinary areas in a several fields such as education, healthcare, social sciences and psychology due to greater focus of researches that examined this construct. These researches has established its causes, internal and external validity and its link with several mental disorders as well as social and academic functioning. Studies in this area generally reported that children with cognitive disengagement syndrome normally expose symptoms such as communication challenges, anxiety, introversion and academic struggles particularly in mathematics and reading

(Kofler et al., 2019). According to the clinical findings, the construct also indicate symptoms of isolation, shy appearance, difficulty in needs expressing, trouble in interpreting social clues, that can cause difficulties in social relationships and deficits in social functioning (Kutlu, Russell et al., 2022). As a clinically recognized construct, cognitive disengagement syndrome is associated with functional impairments and with higher level of symptoms tends to report more impairments (Wood, Lewandowski, Lovett, & Antshel, 2020).

According to the observation that cognitive disengagement syndrome correlated with attention deficit hyperactivity disorder which is highly heritable, therefore, researches became interested in studying genetic framework of cognitive disengagement syndrome (Mueller et al., 2014). A recent twin study found that cognitive disengagement syndrome was more strongly associated with the attention deficit hyperactivity disorder inattentive subtype, as compared to hyperactive-impulsive subtype. While genetics play a significant role in hyperactive-impulsive behavior and the individual differences in cognitive disengagement syndrome are mostly influenced by non-shared environmental factors. The cognitive disengagement syndrome association with attention deficit hyperactivity disorder inattentive symptoms was partly due to genetics and environmental factors, while the association with hyperactive-impulsive symptoms was mostly genetic. This implies that cognitive disengagement syndrome though related to attention deficit hyperactivity disorder but it is less heritable (Becker et al., 2023).

Hence researchers suggest that cognitive disengagement syndrome may develop due to the environment created factors by dealing with symptoms of attention deficit hyperactivity disorder. Further research should explore the genetic and environmental factors underlying cognitive disengagement syndrome symptoms, particularly in populations where it indicates the main reason for seeking clinical support. Examining whether similar cognitive disengagement

syndrome symptoms exist in individuals with and without other conditions like attention deficit hyperactivity disorder, can help determine their genetic versus environmental origins (Moruzzi, Rijdsdijk, & Battaglia, 2014).

### **2.1.1 Cognitive Disengagement Syndrome and Psychosocial Deficits**

Specific psychosocial deficits have been linked with cognitive disengagement syndrome symptoms including co-occurring mental disabilities, social difficulties, and deficits in academic or in neurocognitive functioning. While the reliable findings indicate that the construct is significantly linked with challenges in social relationships, particularly social withdrawal (Reinvall et al., 2017). Social issues describe two key difficulties i.e., social rejection and challenges in establishing or managing interpersonal relations. Previous studies have shown a relation between cognitive disengagement syndrome symptoms and social issues suggest that children with high symptoms of cognitive disengagement syndrome are characterize by passive social involvement, withdrawal, and isolation (Yung, 2021). Another effect of cognitive disengagement syndrome related to impairment in social functioning is the high level of peer-disapproval. Peer-rejection describes as, the level to which a child is dislike by their peer group in a social process. Research suggest that peer rejection evolves rapidly in new circumstances and their opinions are not easy to alter (Ferretti, King, Hilton, Rondon, & Jarrett, 2019). For example, when teacher's ratings of children on following items like, unable to pay attention and looks sleepy emerged cognitive disengagement syndrome as the only predictor of peer rejection irrespective of whether they were independent from the evaluated child's internalizing, anxious or depressed characteristics (Barkley, Martinez, & McBurnett, 2017).

Since cognitive disengagement syndrome has been associated to social withdrawal, mental confusion, and slow processing, a poorer perception of subtle social cues, less observed behavioral

dysregulation, possibly owing to increased peer withdrawal. According to studies findings, children with cognitive disengagement syndrome may be more likely to experience peer neglect due to its linked with slow processing, mental confusion, a poorer perception of subtle social cues, social withdrawal and less observed behavioral dysregulation. An increasing evidence suggest that cognitive disengagement syndrome is associated with peer difficulties, particularly in school-aged children. Also, linked with long term social, functional and emotional problems above and beyond attention deficit hyperactivity disorder symptoms (Fredrick et al., 2022).

The study hypothesized that cognitive disengagement syndrome symptoms is likely to be associated with poorer peer functioning over a six-month period, even after accounting for a child's current peer relationships and other mental health issues like attention deficit hyperactive disorder, anxious, depressive, and behavioral problems. Additionally, researches compared children with high cognitive disengagement syndrome symptoms to those with low symptoms, suggest that children with high cognitive disengagement syndrome symptoms, would show more psychological symptoms and greater difficulties in peer relationships than children with low symptoms (Becker, 2014).

Although associated across several conditions, cognitive disengagement syndrome has been generally evaluated or treated in school settings. It's crucial to determine whether children clinically exhibit cognitive disengagement syndrome have low academic performance than their peers, or if they show specific academic difficulties (Becker et al., 2022). When considering the literature on cognitive disengagement syndrome and functional impairments, findings related to academic performance are remarkably less clear. However, studies on how cognitive disengagement syndrome affects children's performance on standardized academic measures have reported mixed results (Fredrick & Becker, 2023). As the symptoms of cognitive disengagement

syndrome has been identified to be linked with general academic achievement in mathematics, deficiencies in initiative, motivation and particularly in language processing. It has been shown that clinically referred children with cognitive disengagement syndrome encompasses low levels of initialization and perseverance leads to deficits in academic progress (Mueller et al., 2014).

Few studies have focused on cognitive disengagement syndrome relation with academic functioning, particularly how drowsiness and apathy may affect academic performance. Carlson and Mann (2002) stated that, on measures of learning problems children with either elevated or mild levels of cognitive disengagement syndrome symptoms showed no significant difference. Therefore, cognitive disengagement syndrome negatively relates with academic performance and cognitive abilities (Becker & Langberg, 2013). Beyond worldwide evaluation about academic deficits, few researches have also been examined the relation of cognitive disengagement syndrome to particular areas of academic functioning including academic support behaviors, study and learning techniques, homework difficulties and organizational challenges (Smith & Langberg, 2020). In bivariate analysis, some studies have found a significant relation between increased homework problems and cognitive disengagement syndrome, as reported by both parents and teachers. In contrast, other studies have found a considerable correlation between higher parent-reported homework issues, and on teacher rating found sluggish, daydream, and low initiation, perseverance symptoms but not drowsy (Fredrick & Becker, 2023).

### **2.1.2 Cognitive Disengagement Syndrome and Internalizing Symptoms**

The symptoms of cognitive disengagement syndrome like daydreaming, lost in own thoughts and its established external correlates including sensitivity to behavioral inhibition and depression therefore, it significantly thought to be best conceptualize in internalizing psychopathology. Both theoretical and empirical evidence emphasize the role of peer difficulties

in the development of internalizing psychopathologies among adolescents. Thus, as an external correlate of cognitive disengagement syndrome, peer difficulties may contribute to the emergence of its symptoms in adolescents (Bernad, Servera, Becker, & Burns, 2016). As recent researches has confirmed the relation between cognitive disengagement syndrome and internalizing symptoms e.g., anxiety and depression (Fredrick & Rondon, 2022). Findings showed that cognitive disengagement syndrome significantly predicts anxiety, and were strongly associated with depressive symptoms even after controlling individual demographics and other dimensions of psychopathology (Becker, Luebke, Fite, Stoppelbein, & Greening, 2014).

Although some evidence suggests that cognitive disengagement syndrome may be more strongly linked to inattention symptoms than to internalizing psychopathology, increasing evidence supports its association with internalizing symptoms, with a recent meta-analysis suggest that, cognitive disengagement syndrome may be highly correlate with depressive symptoms rather than symptoms of anxiety (Becker et al., 2016). Especially, children with elevated levels of cognitive disengagement syndrome symptoms have been shown to exhibit disengagement, social impairments and displeasure rather than children with lower levels, demonstrate its connection also with mood symptoms (Becker & Langberg, 2013). After accounting for symptoms of attention deficit hyperactivity disorder, ratings of cognitive disengagement syndrome remain significantly linked to internalizing symptoms. Meanwhile, clinically referred children diagnosed with both anxiety and attention deficit hyperactivity disorder were more likely to exhibit cognitive disengagement syndrome symptoms compared to those diagnosed with attention deficit hyperactivity disorder alone (Jacobson, Geist, & Mahone, 2018).

The symptoms of cognitive disengagement syndrome have been noted to confer more likely to be comorbid with lower family socioeconomic status and co-occur with internalizing

disorders (Hardy, 2022) and often co-existing internalizing disorders such as generalized anxiety and depressive disorders (Becker, Smith, Willcutt 2020). As cognitive disengagement syndrome individuals are more susceptible to internalizing behaviors, such as introvert, appearing shy, failing to communicate certain requirements and less social interaction. Hence, it reduces possibilities for social interactions which impacts on overall domains of social functioning (Mueller et al., 2014).

### **2.1.3 Cognitive Disengagement Syndrome and Neuropsychological Deficits**

According to the nature of cognitive disengagement syndrome, it would be anticipated that individuals with high level of cognitive disengagement syndrome symptoms demonstrate neuropsychological impairments, particularly in processing speed, attention span and concentration areas (Sarovic, 2021). Further, the higher level of symptoms has been related to increased impairments in attention maintaining and shifting, and in cognitive adaptability while, children who exhibits high level of symptoms also face attention shifting challenges (Lundervold et al., 2011). Also, researches has linked symptoms of cognitive disengagement syndrome to disabilities in inhibitory control and variability in responses, mind wandering, processing speed, and working memory (Kofler, 2018). Moreover, youth with medical issues who exhibit cognitive disengagement syndrome may find it difficult to complying and managing the constant increasing in medical information and responsibilities related to their health (Becker, Marsh, Holdaway, & Tamm, 2020).

Though, cognitive disengagement syndrome has been associated with processing speed, the evidence supported for this assumption revealed mixed findings. Processing speed refers to an underlying cognitive ability to comprehend and to respond to the external stimuli including elevated levels of output speed, cognitive and integration of low perceptual levels. Thus,

processing speed mechanism include visuospatial, cognitive and fine motor skills demands at different levels depends on the task (Cook et al., 2019).

Children with cognitive disengagement syndrome who possess social functioning and neuropsychological tendencies manifest challenges in social development. The most common problem contribute to cognitive disengagement syndrome is cognitive processes including attention which effects child social functioning. Mainly, two types of attention may relate with children social issues such as selective attention which linked to social challenges. It is crucial for a child to shift the focus of attention related to the social clues rather than non-relevant clues, also to show good behavior and make applicable decisions while interacting socially. The second type, sustained attention impacts on child ability to stay focus during social play and communication leads to miss the effective social clues when interacting socially. Children who fails to stay attentive when interacting socially seems to be uninterested in such interaction, considered by their peers. Eventually, their peers not bother them to interact socially afterwards. Further, sustained attention can be considered as a key impairment in cognitive disengagement syndrome due to more closely related to it (Rondon, Hilton, Jarrett, & Ollendick, 2020).

Some studies have focused on neuropsychological correlation with symptoms of cognitive disengagement syndrome and suggest that children who scored higher identifies both a lack of sustained attention and deficiencies in early selective attention processing. Additionally, the symptoms of cognitive disengagement syndrome have been positively related with more spatial memory variability and to less motor speed. Increased evidence of cognitive disengagement syndrome symptoms has been noticeably linked to lower scores on measure of general intelligence, staying attentive, processing speed, working memory and reaction inhibition according to a recent meta-analysis (Rosanas et al., 2020). Consequently, recent researches have indicate that children



with higher level of cognitive disengagement syndrome symptoms are more likely to exhibit poor working memory (Bolat et al., 2020). As cognitive disengagement syndrome comprises symptoms like sluggish, daydream, confused, slow, and lethargic behaviors, it is not surprising that, the construct has been linked to daytime sleepiness (Becker, Luebbe, & Langberg, 2014).

Earlier adult studies recognized that cognitive disengagement syndrome and daytime sleep are distinct but significantly related constructs (Mayes, Calhoun, & Waschbusch, 2021), which were identified by empirical studies conducted on adults, reveals that daytime is more strongly associated with cognitive disengagement syndrome rather than other sleep domains. Understanding this relation is crucial because some researchers have questioned whether cognitive disengagement syndrome primarily reflects sleep disturbance, particularly daytime sleepiness (Mayes, Waschbusch, Mendoza, & Calhoun, 2021). While researches suggested that some cognitive disengagement syndrome symptoms overlap with behavioral signs of excessive daytime drowsiness (Becker, Garner, & Byars, 2016). While some studies in literature have examined the cognitive disengagement syndrome relation with sleep and found significant association, particularly with poorer nighttime sleep quality and sleep disturbances like night waking. Meanwhile, Becker and colleagues (2015), found that cognitive disengagement syndrome was remarkably associated with children's sleep functioning only due to its correlation to inattentive attention deficit hyperactivity disorder (Langberg, Becker, Dvorsky, & Luebbe, 2014).

#### **2.1.4 Cognitive Disengagement Syndrome and Autism Spectrum Disorder**

While researches have examined the relation between cognitive disengagement syndrome and psychosocial functioning (Reinvall et al., 2017), it is not surprising that few researches have studied cognitive disengagement syndrome in autism spectrum disorder. The symptoms of cognitive disengagement syndrome expected to highly impact autism spectrum disorder researches

and clinical practices (McFayden et al., 2022). A neurodevelopmental disorder known as autism spectrum disorder includes limited, repetitive patterns of interest as well as deficiencies in social interaction or in communication abilities and language skills (American Psychiatric Association, 2013) (Zimmerman, Ownsworth, Donovan, Roberts, & Gullo, 2018). The spectrum has been referred to the diversity in impairments of autistic children. The autism spectrum disorder symptoms usually appear in the first two to three years of life (Nadeem, Bibi, Suhaib, & Ali, 2019). Some children show mild impairments while some may have severe impairment level. Particularly, three domains of development are effected by the disorder, include defects in communication both verbal or nonverbal, displays multiple repetitive behaviors with limited or unusual interests and difficulties in social interaction (Khalid et al., 2020)

A number of children and adolescent's studies has examined the characteristics and causes of autism spectrum disorder and existing reviews of the empirical literature generally assessed social and adaptive outcomes with high or low functioning in individuals with autism spectrum disorder (Sarovic, 2021). Studies have shown that cognitive disengagement syndrome is linked to social and global impairment, in addition to the impairment also linked to attention deficit hyperactivity disorder or autism spectrum disorder (Mayes, Calhoun, & Waschbusch, 2020).

As social withdrawal has been related to cognitive disengagement syndrome which is a key symptom of autism. Hence, the cognitive disengagement syndrome relation with social withdrawal may be examined by the presence of autism. Further, autism and cognitive disengagement syndrome marked comorbidity and cognitive disengagement syndrome is just as common in autism as in attention deficit hyperactivity disorder (Mayes, Calhoun et al., 2023). Autism spectrum disorder in adolescent experiences difficulties in following areas including high rates of depressive and anxiety symptoms, and also deficiencies in social-communication skills and

executive functioning such as organization, time management, tasks priorities, which are also related to cognitive disengagement syndrome (McCauley, Harris, et al., 2019). Studies has considered whether the symptoms of cognitive disengagement syndrome in adolescents relate with symptoms of autism spectrum disorder like executive functioning in daily life as well as symptoms of depression and anxiety with autism spectrum disorder not having any intellectual disability. The key findings revealed that individuals with autism shows higher symptoms of cognitive disengagement syndrome which leads to higher levels of depression and anxiety and also significant deficiencies in metacognitive executive functioning such as, capacity to organize, plan, self-monitoring and maintain working memory (Duncan, Tamm, Birnschein, & Becker, 2019).

As cognitive disengagement syndrome has been interrelated with several areas of functional impairments therefore, it is crucial to recognize the underlying characteristics of cognitive disengagement syndrome in autism spectrum disorder (Marshall et al., 2017). Particularly, it is predicted that cognitive disengagement syndrome linked with hypo activity and mental foggy identifies difficulties in social interaction, interpreting social cues and tendencies toward social isolation and withdrawal were recognized as risk factors for depression. Meanwhile, cognitive disengagement syndrome specified as a significant risk factor occurring depression (Brewer, Simmons, Hall, & White, 2020).

Some symptoms of cognitive disengagement syndrome highly reflect the behaviors observed in autism spectrum disorder children like lost in own world, lacks energy, slow moving and delayed in task completion (Reinvald et al., 2017). Therefore, individuals with both autism spectrum disorder and cognitive disengagement syndrome symptoms are often likely to co-occur academic challenges, delayed processing speed and internalizing disorders. If cognitive disengagement syndrome symptoms separate from attention deficit hyperactivity disorder, a

possible group of cognitive disengagement syndrome and autism spectrum disorder may potentially exist which leads to the risk of several social and academic challenges, slow cognitive processing and internalizing mental health symptoms with autism spectrum disorder group with no or having less symptoms of cognitive disengagement syndrome (Tahilloğlu et al., 2024).

To the best of our understandings, five studies in literature has examined the potential pattern of interrelationship between autistic behaviors and cognitive disengagement syndrome, reported that autism spectrum disorder with high and medium levels of cognitive disengagement syndrome symptoms identifies more social challenges rather than autism spectrum disorder with low level of cognitive disengagement syndrome symptoms (Tahilloğlu, Celik, Huseynova, Satar, & Ercan, 2023). Also, a study found the positive correlation in autism spectrum disorder and cognitive disengagement syndrome even after taking into account age, IQ and attention deficit hyperactivity disorder. Moreover, other studies on a young adult group diagnosed with autism spectrum disorder found the presence of cognitive disengagement syndrome without having intellectual disability (Mayes, Becker, et al., 2023).

While, some studies in literature have examined the cognitive disengagement syndrome in relation to parenting styles in Western framework while taking into account the moderating role of different variables including child temperament, suggest that authoritarian parenting style has been associated with elevated cognitive disengagement syndrome symptoms, particularly in children with less controlling efforts with the moderating effect of child temperament (Zhang & Li, 2015). Meanwhile, a research has identified that parental psychopathology (e.g., depression and anxiety) may intensify the cognitive disengagement syndrome symptoms, especially when combined with strict parenting control. In addition, also has been studied with parental warmth

and behavioral control, highlight that supportive parenting identified less cognitive disengagement syndrome related academic impairments (Jarrett et al., 2020).

## **2.2 Psychosocial Functioning and Autism Spectrum Disorder**

Regarding psychosocial functioning development, studies have identified that autism spectrum disorder significantly impairs a person's ability to manage daily life problems even for those individuals with high intellectual abilities (Schmidt et al., 2015). Impairments in social functioning including difficulties in interactive communication, establishing, sustaining and comprehending relations which are also the key symptoms of autism spectrum disorder (Lin & Huang, 2019). Social functioning consists of a complex interaction of behaviors which requires to be modified in social setting. Behavior is categorized in four major types to determine social processes declare by Pallathra and colleagues, which may be experiences by adults with autism spectrum disorder to certain extent such as social cognition, social skills, social motivation and social anxiety.

Firstly, autism spectrum disorder in adults effects social cognition, includes the proficiency to understand or illustrate social information both verbally and nonverbally. Further, individuals with autism spectrum disorder in both childhood and adults indicate social skills deficiencies. Third, social motivation, such as in individuals with autism spectrum disorder observed low motivation while interacting with others. It is a multifaceted concept comprises of five key components any of them impacts autism spectrum disorder i.e., social maintenance refers to sustaining social relations over a long time period. Social approach which helps out interacting socially, while social interest promoting interest in interaction. Social orientation refers to preferring or accompanying social stimuli and at last, social linking which shows satisfaction in interacting socially. Finally, autism spectrum disorder in adults experiencing social anxiety or

tends to avoid social situations. Existing literature investigated that evaluating social functioning must be effective when considering all four categories rather than prioritizing a single category. Findings from studies on autism spectrum disorder in adults, found noticeable but significant correlation in measuring over all these categories (Pallathra, Cordero, Wong, & Brodtkin, 2019).

Moreover, researches on autism spectrum disorder in adults found low levels of quality of life related to health in psychological, social and physical aspects rather than healthy individuals. It is important to prioritizing these functioning areas particularly evaluating individuals with autism spectrum disorder (Lassen et al., 2022). Individual's perception about over all well-being including social, emotional and physical domains refers to quality of life (Lin & Huang, 2019). While focusing on the relation of life satisfaction with the levels of psychosocial functioning, it would be significantly crucial to highlight the needs of autistic individuals (Carpenter et al., 2024). Adaptive functioning in adults with autism spectrum disorder was significantly correlated with social functioning and demographics like work status, residency, friendship status, suggested by Farley and colleagues (Nyrenius & Billstedt, 2020). The degree to which a person is capable to be independent in practical life situations, such as use of motor skills, communicating, socializing and everyday living in a functional manner known as adaptive functioning. Autistic individuals and adults have greater intensity of psychosocial deficits also including low adaptive functioning levels. Autistic children and adolescents often experience a high rate of psychosocial difficulties, including low level of adaptive functioning (Kallus et al., 2021). Meanwhile, they experience a high level of impairments in everyday life skills like communicating or interacting socially (Scheeren et al., 2022).

However, recent studies have suggested that the severity of symptoms in children with autism associate to many psychosocial difficulties. And researches has pointed to highlight the

ways in which how autism symptoms like externalizing and internalizing symptoms contribute to high prevalence of autism related psychosocial deficits (Mayes et al., 2022).

### **2.3 Parenting Styles**

In the existing literature, parenting studies have received sufficient attention in terms of several scientific domains (Hartley, Papp, & Bolt, 2018). The role of parenting is highly pivotal in child's development, emphasized across various theoretical frameworks, has been a focus of researches for more than seventy-five years (Crowell, Keluskar, & Gorecki, 2019). Studies have focused on various categories when studying parenting which includes parenting styles, parenting practices and parenting dimensions (Hayes & Watson, 2013). In contrast to the studies of parental practices, parenting styles prefer the better emotional family environment that reflects the relational aspects between parents and their children (Mandal, Das, Datta, & Chowdhury, 2021).

Parenting styles has largely been conceptualized based on the work of Baumrid primarily, and further developed by Maccoby and Martin (1989). In order to define parenting, studies have identified two independent orthogonal parental categories including warmth and strictness. Warmth also refers to acceptance, involvement or responsiveness, which includes patterns characterize by support and reasoning, whereas strictness also called supervision or demandingness which grouped by surveillance parenting practices. When combined these two orthogonal dimensions to form three parenting styles i.e., authoritarian, authoritative and indulgent (Garcia et al., 2020).

Authoritative with high demandingness and high responsiveness combining warmth and clear expectations. This style implements consistent rules guided by thoughtful reasoning, as children understand the logic behind rules rather than simply obeying them, allowing open discussion and flexibility in discipline. They foster autonomy and competence while providing

guidance. Studies noted that children raised in authoritative settings tend to exhibit greater academic progress, strong social skills, emotional regulation and self-esteem. These parents are well responsive to the child's feelings or emotional needs. While, authoritarian with high demands and low response emphasizing strict compliance and rigid rules with little affection. So, authoritarian parents consistently perform verbal aggression, physical coercion and unjustified punishments in order to control their child's behaviors. According to the studies, children reared in authoritarian style may be obedient but lack independence, creativity, lower self-esteem, and poorer social interactions. While some may perform well academically due to high demands they tend to struggle with creativity and independent decision-making. Permissive style characterized by low demandingness and high responsiveness where parents are highly caring but enforcing rules or regulations usually avoids disciplines and show leniency. They are more like friends than authority figures and avoid confronting towards their child. Studies suggest that permissive parenting can lead to impulsivity, poor self-regulation, and behavioral issues. These children may have high self-esteem but often struggle with self-regulation, responsibilities, and face difficulties with boundaries (Escudero, Villarejo, & Garcia, 2020). According to the Maccoby and Martin's work, Baumrind (1989, 1991) raised her typology with a fourth parenting style, namely the uninvolved style, which displays low demandingness and low responsiveness, characterized by neither warmth nor strictness. Children often experience emotional neglect, behavioral issues, and difficulties with social skills and self-esteem (Kuppens & Ceulemans, 2019).

As previous studies highlight that authoritative style is beneficial which balances support and demandingness. Studies consistently demonstrated that authoritative parenting is the best parent child relationship which foster the optimal development in children and adolescents of Western families. Even authoritative parenting has wider positive influence over adolescence, it



has been associated with positive functioning in both childhood and adolescence. Authoritative families promote better psychosocial functioning outcomes like higher self-esteem, self-reliance, task oriented and social acceptance in adolescents. Further, this style is highly beneficial in school settings, children has better school performance with good progress and orientation toward school, and are less involved in school misconduct incidence. (Garcia & Serra, 2019). As, parenting is the most essential framework helps to foster a child's growth, academic success, behavioral or emotional development and developmental milestones. Positive parenting is define as parenting that encompasses the characteristics of authoritative style which promotes self-regulation and less externalizing behaviors. Children with and without disabilities both needs positive parenting to strengthen learning and adaptive skills. Positive parenting related to good functional outcomes like social and adaptive behaviors in the child with disabilities such as autism spectrum disorder and Down syndrome (Likhitweerawong et al., 2022).

Moreover, studies on parenting has considered that parenting style effects child adjustment and the relationship may be bidirectional e.g., parent's child rearing practices may be influenced by their children's adjustment (Smetana, 2017). Also, studies have indicated that parenting styles may be negatively influenced by rearing a child with autism spectrum disorder due the lack of cooperation and occurrence of communication challenges revealed by autistic children results in low level of parental warmth and heightened parental controlling and protective behaviors (Clercq et al., 2019).

### **2.3.1 Parenting Styles and Autism Spectrum Disorder**

Knowing that parenting effects child's developmental outcomes so it is highly valuable to focus in understanding the parenting relation with autism spectrum disorder (Dissanayake, Richdale, Kolivas, & Pamment, 2020). Raising an autistic child entails a high demand on parents

as compared to raising a typically developing children (McCauley, Mundy, & Solomon, 2019). The condition is linked to various impairments, which often lead parents to feel overwhelmed during child's adjustment. As a result, caregivers of children with autism spectrum disorder often expressed higher levels of anxiety and depression, and more health-related issues (Enea & Rusu, 2020). Additionally, rearing an autistic child may impose an adverse effect on parenting styles. As researches reported that, a child diagnosed with autism spectrum disorder exhibits behavioral issues which impacts on parent's mental health, increase parental stress, and reduce overall well-being and functioning (Hyman et al., 2020).

Having a child with autism can bring about a unique set of stressors and difficulties for parents (Garcia et al., 2020). After diagnosis, parents usually find it difficult to understand and accept their child condition hence, finding the suitable assistance and preparing for the child's safe future remarkably challenging for many parents (Hernandez, Zafra, Esteban, & Barbero, 2018). Studies in literature suggests that, parenting stress may impact on problem solving abilities of parents, coping abilities of both children and parent's and is negatively related with the effectiveness of autism spectrum disorder treatment (Clauser et al., 2021). While, the extreme level of difficulties arises when rearing a child with autism spectrum disorder which may influence a parent's choice of parenting style, also these styles helps parents to cope up with the stressors regarding the challenging behaviors in autistic children (Olson et al., 2022).

Earlier researches on parenting styles have revealed considerable findings for children with autism spectrum disorder. The styles of parenting among group of children with and without autism spectrum disorder has shown no difference. According to a study of Rutgers (2007), modified notably less authoritative parenting for autism spectrum disorder children than supporting a child without autism spectrum disorder. Meanwhile, according to researches children

with autism were reared with more permissive parenting and also receive more authoritarian parenting. Therefore, in Asia researches on parenting practices regarding autistic children are limited, has raised a question about parenting related stress, parenting approaches and quality of life in caregivers of children with autism spectrum disorder in Western studies were distinct across from the societal, socioeconomic and cultural background (Likhitweerawong, Boonchooduang, & Louthrenoo, 2022).

### **2.3.2 Parenting Styles with Reference to Pakistani Context**

Though, parenting is universal but parenting practices varying culturally. The type of parenting style that parents choose can be determined by their culture. Culture difference may also arise in a way that how parents express care, love, control and affection towards their child. As a result of this variation in expression may also cause changes in child's perception (Bornstein, 2013). In line with the cultural preferences, the key difference exists between independence and interdependence. As the independent Caucasian culture, facilitates independence, open expressions, and self-sufficiency. Conversely, Asian culture promotes interdependence, unity within a group, and respect for social structure. Meanwhile, in Asian culture, parents are more likely to adopt authoritarian style, in contrast, Western culture prefer to be authoritative parents (Rauf & Ahmed, 2017).

Pakistan is a nation built on Islamic principles (Mahmood, 2009). As, Islamic teachings supports disciplined and caring parenting. In line with this concept, parents teach their child to obey, respect and submit to authority. Along that, harmony, adherences to social norms, and a sense of family duties are regarded as desirable and valued traits of good children (Franceschelli & Brien, 2014). In traditional parenting roles, especially in Pakistani culture, gender norms are effectively important. Mothers are generally perceived as the primary caregivers because they

establish a nurturing and supportive home environment responsible for raising children fostering emotional bonds and imparting moral and religious values. Conversely, fathers are often regarded as discipliner and provider, playing a pivotal role in career guidance and financial decisions (Mahmood, 2009). Besides that, according to studies, boys often learn mostly key skills from their fathers like self-control, emotional management and social behaviors. This guidance helps the child more likely to obey parents and respect parental authority which is perceived as care and involvement, unlike in Western cultures (Butt et al., 2014). Within this concept of teaching and values, parent authoritarian control and supervision appear to be more common and acceptable in Pakistani culture. Also, authoritarian parenting styles are prominently found in male-dominant societies, like India and Pakistan (Ilyas & Khan, 2023).

Pakistani parents often adopt an authoritarian or authoritative approach, with variations based on urban-rural domains, educational levels, and family dynamics (Nadeem, Rafique, Khawaja, & Yameen, 2014). Authoritarian parenting, based on traditional beliefs, emphasizes high expectations, strict discipline and respect for elders. In contrast, authoritative parents establish self-trust within fair limits. Children raised in democratic families' foster creativity, self-sufficiency, independent and emotional well-being. However, educated urban families demonstrate authoritative traits balance warmth and discipline leading to better psychological outcomes for children (Hassan et al., 2022).

Further, modern parenting practices have evolved throughout the years in response to changes in society. Parents today encounter multiple challenges that require different types of styles on how they reared their children? Within the modern parenting trends, reflects more authoritative and permissive parenting styles which focus on high responsiveness and places an emphasis on setting clear expectations while nurturing independence and critical thinking abilities

of children. Further, they support children to learn through real-life experiences under parental guidance. Through those experiences, children adapt practical thinking and emotional intelligence by learning how to manage social skills. Therefore, studies pointed out that, such parent's aims to prepare their children for the real world challenges by nurturing their natural curiosity or strength and to ensure that they are ready to face future challenges confidently (Mushtaque et al., 2022).

Moreover, several studies have been carried out to explore the parenting style effects on child later development. While, various conclusions have been identified by the researches in terms of parenting style impact on child later life. In authoritative settings, children seem to be more satisfied with their lives, are happier, more confident and socially successful. Conversely, children who raised in authoritarian settings, seem to be efficient and disciplined, with low social skills and self-worth, are shy and have difficulty in managing social relations. Furthermore, permissive parenting results in the children with low self-regulation and happiness, often perform poorly in school. Both excessive and insufficient parental control tends to develop social issues and behaviors like poor academic achievement and drug abuse, highlights that permissive and authoritarian parenting styles result in children which are aggressive and anti-social. Meanwhile, another study found that, the father's excessive control and rigidity in daily life results in children trying to stay away from their fathers, as they feel powerless in front of authority figures which results in an emotional detachment in the parent child relationship (Butt et al., 2014). Lastly, uninvolved parenting results in children lacking self-control, competitiveness and self-esteem. Hence, this style of parenting is considered as lowest in ranking across all life domains (Matejevic, Todorovic, & Jovanovic, 2014). Parenting related factor that impact child psychosocial functioning include attitudes within the family such as rejection, hostility and emotional

distancing, or modeling negative beliefs which view the world as threatening and hostile and the make children to adopt a negative attributional style (Ilyas & Khan, 2023).

Parenting is a God-gifted phenomenon, marked by a sense of belongingness and care in rearing a child and lasts till adulthood. However, raising a child with developmental disabilities like autism, there is no end to parenting, which is highly overwhelming often marked by stress and emotional strain (Mumtaz, Fatima, & Saqulain, 2022). Raising a child with autism spectrum disorder in Pakistan involves distinct difficulties due to limited awareness, less resources, and socio-cultural stigma. Studies revealed that, Pakistani parents of children with autism experience higher stress level than those of typically developing children because of limited access in financial burdens and specialized healthcare or social isolation (Furrukh & Anjum, 2020).

Parents of children with autism often face greater stress, and more intense emotional responses including symptoms of anxiety and depression compared to parents of children with other difficulties. Various key factors increase parental stress such as children's social and communication problems, emotional boredom, regulation issues, sleep disturbance and food appetite. While, many people resist accepting their child have functional disabilities. The primary caregiver's health is crucial for family dynamics which significantly affect parent-child relation in families with autistics children. In terms of family dynamics, to improve the quality of life for families and children with autism it is essential to analyze cases and identify effective intervention programs for supporting their needs (Ramzan et al., 2022).

In conclusion, studies identified that parental factors such as stress and parenting self-efficacy might influence the functional improvement of children with autism. The children with autism spectrum disorder along with their parents often face stigma, which causes stress among the caretakers and affects coping abilities of the parents, especially mothers (Schwartzman,

Hardan, & Gengoux, 2021). While, studies show that, mothers of children with special needs feel responsible for the behavior of their child due to their greater involvement in the upbringing of their child. If the child was unable to respond or was regressing the mother blamed herself for failing (Papadopoulos, 2021). Moreover, some studies suggest that parents of autistic children often deal with the life-long impairment of their children. In addition, parents with limited support and resources experience greater challenges leading to higher stress levels. Therefore, with the presence of social support, especially from family plays an essential role in reducing stress and anxiety for parents of children with autism, particularly mothers. In return, it positively improves the wellbeing of the mothers and enhancing their overall quality of life. Furthermore, if higher levels of social support received by the mothers of children with autism spectrum disorder, the less they face an adverse effect while raising an autistic child. In result, these buffering effects encompasses a decrease in psychological stress, negative mood, depression and anxiety as experienced by parents (Furrukh & Anjum, 2020).

## **2.4 Theoretical Framework of the Study**

### **2.4.1 Biopsychosocial Model (BPS)**

The Biopsychosocial model, was firstly introduced by George Engel in 1977, proposed that to understand a person's medical condition requires to consider also the social and psychological factors rather than to consider a biological factor only. The model suggest that biological, psychological, and social factors play a vital role in determining whether individuals with a health condition are perceived as sick by themselves or others. Also, it highlights the dynamic interplay between these factors that can influence how a person experience chronic pain (Gatchel, Ray, Kishino, & Brindle, 2020). According to this model, based on International Classification of Functioning, Disability and Health, an individual's level of functioning is the outcome of a complex interaction between health conditions including bodily functions and structures, personal characteristics and environmental factors. Therefore, it is essential to assess functioning and disability on a broad level, considering performances at the body, individual, and societal levels across various life domains as influenced by the individual's interaction with contextual factors (Schmidt et al., 2015).

Based on the holistic concept of biopsychosocial model individuals may experience illness even when no underlying pathology is present which is observed commonly occurring in around 25% of outpatient visits. Unlike, the biomedical model, Engel's biopsychosocial model has clearly predicted this phenomenon and he criticized a traditional biomedical model for being too narrow (Wade & Halligan, 2017). In his 1977 paper, 'the need for a new medical model' Engel advocated for the rejection of the mind body dualism and argued that focusing solely on biological factors while avoiding the psychological and social dimensions distorts our understanding of health and can adversely affect patient care. While, his model promotes a system oriented approach that



integrates both physical and mental health. He emphasized the need to recognize a complex interplay of these factors on a broad level from individual to societal level that influence health outcomes (Roy & Campbell, 2013).

Though the etiology of cognitive disengagement syndrome is unknown, earlier researches have recognized that cognitive disengagement syndrome might be compiled by three separate factors i.e., biopsychosocial factors. Thus, it is possible that the unique factors of cognitive disengagement syndrome might be comprised multiple distinct etiologies (Smith et al., 2018). Psychological elements like stress and emotional regulation are more crucial to focus. Cognitive disengagement syndrome may be more likely to occur in a negative household setting with more conflicts and high emotional expression. Moreover, researches indicate that negative household setting, such as fighting between parents and high negative emotional expression enhanced the connection between depression, attention deficit hyperactivity disorder inattentive and cognitive disengagement syndrome causes lack of positive home environment for example, lack in positive feelings, praise and warmth tends to impairs a child ability to cope and interact with their environment (Fedrick et al. 2019). Cognitive disengagement syndrome is closely related to social dynamics including socioeconomic status, psychosocial stress and family relations. Social factors, such as social support and cultural background interact with biological and psychological elements effects individual's experiences of chronic pain. In addition, socioeconomic status and exposure to traumatic stress are key determinants associated with cognitive disengagement syndrome, as they contribute to environment that adversely affect mental health and cognitive functions (Musicaro et al., 2020).

As studies has identified a role of genetic heritability in cognitive disengagement syndrome but it is less observable than in condition like attention deficit hyperactivity disorder. The first

cognitive disengagement syndrome related study of genetic heritability in a monozygotic and dizygotic twins sample found that cognitive disengagement syndrome to be comparatively less genetically heritable than attention deficit hyperactivity disorder (Moruzzi et al., 2014). Cognitive disengagement syndrome also had significantly larger non-shared environmental influences. Researchers investigated the possible genetic and adversity-related causes of cognitive disengagement syndrome found that it relates to socio-economic status, psychosocial stress such as negative family dynamics, and traumatic stress may be a crucial etiological factors. Thus, researches on the etiology of cognitive disengagement syndrome suggested that environmental factors may play a role in its emergence (Musicaro, Ford, Suvak, Sposato, & Andersen, 2020).

Biological factors like genetics, psychological factors as emotional stress, and social factors like family dynamics all play a role in the expression and intensity of cognitive disengagement syndrome. Hence, the biopsychosocial model provides an effective lens for understanding cognitive disengagement syndrome by focusing on the interaction of biological vulnerabilities, psychological stressors and adverse social environments. This alignment with researches indicates that cognitive disengagement syndrome is not a single-factor construct but the result of multiple overlapping etiologies (Rondon et al., 2020).

## **CHAPTER III**

### **RESEARCH METHOD**

The present study was conducted to explore cognitive disengagement syndrome in relation to psychosocial functioning among children with autistic symptoms. Another goal was to study the moderating role of parenting styles in the relationship between cognitive disengagement syndrome and psychosocial functioning among children with autistic symptoms. To collect data for the current study, the instruments used were parent-report measures. This section mainly describes the design followed in the present study, including the sampling techniques, procedure followed for data collection, and the statistical method applied for data analyses.

#### **3.1 Research Design**

The present study followed a survey research method with correlational and cross-sectional design in nature. The present study was conducted in following two phases.

#### **3.2 Research Phase**

##### **3.2.1 Phase I:**

The first phase of the present study was carried out in two stages. Stage I comprised the translation of the study scales into Urdu language.

##### **3.2.2 Stage I: Translation of the Study Scales**

The study aimed to utilize the translated versions of the scales. For this purpose, following steps were carried out to translate the scales.

### **Step-I: English to Urdu translation**

In the initial step, the scales were reviewed and then translated into Urdu language, without altering the original context. For this purpose, a panel of experts was consulted, including three Urdu linguists with Master's degrees, one English specialist, and one Psychology scholar holding a Ph.D. These experts were selected based on (1) their clear understanding of the original English items and ability to identify accurate Urdu equivalents, and (2) their ability to produce translations that would be easily understood by respondents. All experts were thoroughly briefed about the purpose and nature of the study.

### **Step-II: Committee approach**

At the second step, the translated items were reviewed by committee approach including a panel of three bilingual experts. The panel having one Ph.D. faculty member and two Ph.D. scholars from the Psychology Department, National University of Modern Languages, Islamabad. The experts were instructed to thoroughly examine the translated items, and select the items that best describe the original context, while ensuring grammar and wording accuracy.

### **Step-III: Performing back translation**

After the final selection of the Urdu-translated scale items, a back-translation was conducted to ensure translation accuracy. Again a panel of experts was consulted, including three Urdu linguists with Master's degrees, one English specialist, and one Psychology scholar holding a Ph.D. This step aimed to verify the precision and consistency of the Urdu translations with the original English version.

#### **Step-IV: Committee approach**

After completing the back-translation process, the final committee approach was conducted for the selection of the accurate back-translated items. This panel were also comprised of three experts (one Ph.D. faculty member and two Ph.D. scholars from the Psychology Department, National University of Modern Languages, Islamabad). Also, the panel were instructed to carefully review and compare the back-translated items with the original scale items to ensure contextual and semantic equivalence of both versions.

#### **Step-V: Finalization of the scales**

Following the committee review of the back-translated items, the Urdu translations were finalized for the following scales i.e., Cognitive Disengagement Syndrome–Parent Report, Weiss Functional Impairment Rating Scale–Parent Report, Autism Spectrum Screening Questionnaire and Parenting Style-Four Factor Questionnaire.

### **3.2.3 Stage II: Establishing Psychometric Properties of the Study Measures**

Stage II comprised the exploration of psychometric strength of the study scales to estimate its effectiveness for the main study. Following this stage, the main study was then conducted to test the hypotheses of the present study.

All four scales along with their subscales, were administered to a small sample. The primary objective of this phase was to evaluate the psychometric properties, effectiveness, and overall applicability of the instruments within the Pakistani sample.

### **3.3 Objectives**

- To establish the psychometric properties (i.e. reliability coefficient and item total correlation) of the study scales

### **3.4 Sample**

Sample for the pilot study comprised parents of fifty (N=50) children including (Boys = 44.0%; Girls = 56.0%) with autistic symptoms, aged between 6-14 years (M= 9.50, SD=2.35), recruited from different autism centers of Islamabad and Rawalpindi by following a purposive sampling technique.

### **Inclusion/Exclusion criteria:**

The standards for the participants' inclusion and exclusion in sample were as follows:

- Parents of children who scored 13 and above on Autism Spectrum Screening Questionnaire were included in the study
- Parents of autistic children with any other medical or psychiatric history/comorbidity, any other disability, or medical condition were excluded from the study

### **3.5 Instruments**

To examine the relationship among variables, following instruments were used in the present study.

A demographic form, containing relevant information was provided to the participant, along with the study scales: Cognitive Disengagement Syndrome-Parent Report (Becker, 2015), Weiss Functional Impairment Rating Scale-Parent Report (Weiss, 2000), Autism Spectrum Screening Questionnaire (Ehlers, Gillberg, & Wing, 1999) and Parenting Style Four Factor Questionnaire (Shyny, 2017).

#### **3.5.1 Cognitive Disengagement Syndrome– Parent Report**

The cognitive disengagement syndrome scale was developed by Becker (2015) which is a part of the Child and Adolescent Behavior Inventory (CABI). It measures different dimensions of psychopathology in youth, as well as social and academic impairment comprising two versions: parent and teacher ratings (Burns & Becker, 2022). Child and Adolescent Behavior Inventory is divided into 11 separate parts: Part 1: Cognitive Disengagement Syndrome, Part 2: Anxiety, Part 3: Depression, Part 4: ADHD Inattention, Part 5: ADHD Hyperactivity-Impulsivity, Part 6: Oppositional Defiant Disorder, Part 7: Limited Prosocial Emotions, Part 8: Social Impairment, Part 9: Peer Rejection, Part 10: Social Withdrawal, Part 11: Academic Impairment (Burns, Lee, Servera, McBurnett, & Becker, 2021).

In the present study, part 1: Cognitive Disengagement Syndrome, parent version was used. The scale consists of 15 items, with a 6-point scoring based on the past month including; 0 = Almost Never (Never or about once per month), 1 = Seldom (about once per week), 2 = Sometimes (several times per week), 3 = Often (about once per day), 4 = Very often (several times per day),

5 = Almost Always (many times per day). Cronbach's alpha index of this measure has been found 0.87 indicating a good reliability index by the previous studies (i.e., Krone et al., 2023).

### **3.5.2 Weiss Functional Impairment Rating Scale – Parent Report**

Margaret Danielle Weiss, developed the Weiss Functional Impairment Rating Scale (WFIRS) (2000), for evaluating functional impairment. This scale consists of both a self-report version (WFIRS-S) and a parent-report version (WFIRS-P), designed for children and adolescents age range from 6 to 17 years. In the present study, the parent-report version was used. The WFIRS-parent report consists of 50 items, where parents or caregivers are asked to evaluate their child's functional impairment in the last month (Weiss, McBride, Craig, & Jensen, 2018). The scale has been translated into 18 languages, (Gajria et al., 2015), and in the present study, the scale was translated into Urdu. A four-point Likert rating scale: 0 = Never or not at all, 1 = Sometimes or somewhat, 2 = Often or much or 3 = Very often or very much, and not applicable (n/a). The items are categorized into seven domains: Family impairment including 10 items, School impairment is further categorized into two domains; learning which include 4 items and behavior include 6 items, Life Skills with 10 items, Child's Self-Concept having 3 items, Social Activities include 7 items and Risky Activities consists of 10 items. Items that are marked as not applicable or with missing responses cannot be considered (Gajria et al., 2015).

The scale has been psychometrically validated, showing strong internal consistency with a reliability coefficient surpassing .80 for the domains separately and for the overall scale. (Weiss, 2000). This scale measures the psychosocial skill impairments, therefore lower score on each domain will be considered as better psychosocial functioning and vice versa. In the present study, six items related to domain of risky activities impairments were excluded because most participants didn't respond to these items, and some marked as not applicable. Therefore, these six



items were not included in the present study. The items were as follows: doing things that are illegal, being involved with the police, smoking cigarettes, taking illegal drugs, doing dangerous things, sexually inappropriate behavior.

### **3.5.3 Autism Spectrum Screening Questionnaire**

Autism Spectrum Screening Questionnaire (ASSQ), developed by Ehlers, Gillberg, & Wing (1999), designed as a primary screening measure to assess autism spectrum disorder (ASD). It is particularly useful for individuals with normal or above-average IQ and those with mild intellectual disabilities (Wigham et al., 2019). The autism spectrum screening questionnaire was just used as a screening tool in the present study to assess autism spectrum disorder among children.

The Autism Spectrum Screening Questionnaire, comprises 27 items designed to be rated by parents, caregivers, or teachers of children and adolescents age range from 6 to 17 years (Ehteshami, Araghi, & Pashmdarfard, 2023). Items scored on a 3-point scale, 0 = No, 1 = Somewhat, and 2 = Yes. The total score range from 0 to 54, with higher scores reporting many characteristics of autism spectrum disorder. The authors suggested the optimal cutoff score as 13 points (Thabtah & Peebles, 2019). According to the psychometric properties, the parent-report version of autism spectrum screening questionnaire has test-retest reliability is  $r = .98$  and a Cronbach's alpha is .86 (Tahılloğlu et al., 2023).

### **3.5.4 Parenting Style Four Factor Questionnaire**

Parenting Style Four Factor Questionnaire, was developed by Shyny (2017), mainly constructed as a tool for measuring parenting styles of adolescent's parents. The author reported Cronbach's alpha of this scale is .92 (Shyny, 2017). The scale is used to identify preferred

parenting styles with 32 items, and 8 items allocated to each of the four parenting styles (authoritarian, authoritative, permissive and uninvolved). Also, items scored on a 5-point Likert scale such as 1= Never, 2= Rarely, 3= Sometime, 4= Most of the time, and 5= All of the time. The items include in authoritarian style: 1, 5, 9, 13, 17, 21, 25, 29, authoritative style items are: 2, 6, 10, 14, 18, 22, 26, 30, the items for permissive style are: 3, 7, 11, 15, 19, 23, 27, 31, and lastly, uninvolved style items include: 4, 8, 12, 16, 20, 24, 28, 32 (Shyny, 2017).

### **3.6 Procedure**

The purposive sampling technique was used to collect data from participants for the pilot study. The participants were parents of autistic children with an age range from 6 to 14 years, and the targeted autism centers to collect data was Islamabad and Rawalpindi. A comprehensive form was provided, which included a confidentiality statement to ensure the privacy of participant's information, a consent section indicating voluntary participation, a brief introduction outlining the purpose of the current study and a statement informing participants that their right to withdraw from the study at any time. A demographic summary sheet was used to obtain the demographic portfolio of the children which included relation with child, gender, age, parental education level, parental working status, family system and family disease history, along with four scales to get the scores from each respondent, which were incorporated in the data collection procedure. Participants were encouraged to complete both the demographic sheet and four scales. The entire process took almost 20-25 minutes. The collected data was then analyzed using SPSS version 25.

### 3.7 Results of the Pilot Testing

This section holds analyses regarding pilot study objectives, to demonstrate the psychometric characteristics of scales used in the present study. In order to meet the objectives, descriptive analyses, alpha reliability, and item-total correlations were computed. Following given tables indicate the result of pilot study.

**Table 3.1**

*Demographic Characteristics of the Study Sample (N = 50)*

|                        | <i>f</i> | %    |
|------------------------|----------|------|
| Gender                 |          |      |
| Boys                   | 22       | 44.0 |
| Girls                  | 28       | 56.0 |
| Age                    |          |      |
| Middle Childhood (6-9) | 28       | 56.0 |
| Late Childhood (10-14) | 22       | 44.0 |
| Relation with Child    |          |      |
| Father                 | 21       | 42.0 |
| Mother                 | 29       | 58.0 |
| Family Status          |          |      |
| Joint                  | 21       | 42.0 |
| Nuclear                | 29       | 58.0 |
| Mother Education Level |          |      |
| Matric                 | 6        | 12.0 |
| FA                     | 8        | 16.0 |
| BA                     | 8        | 16.0 |
| MA                     | 13       | 26.0 |
| Higher                 | 15       | 30.0 |
| Mother Working Status  |          |      |
| Housewife              | 19       | 38.0 |
| Employed               | 8        | 16.0 |
| Teacher                | 9        | 18.0 |
| Doctor                 | 6        | 12.0 |
| Any other else         | 8        | 16.0 |
| Father Education Level |          |      |
| Matric                 | 9        | 18.0 |
| FA                     | 8        | 16.0 |

|                                            |    |      |
|--------------------------------------------|----|------|
| BA                                         | 8  | 16.0 |
| MA                                         | 14 | 28.0 |
| Higher                                     | 11 | 22.0 |
| Father Working Status                      |    |      |
| Employed                                   | 8  | 16.0 |
| Unemployed                                 | 4  | 8.0  |
| Government Job                             | 11 | 22.0 |
| Private Job                                | 14 | 28.0 |
| Any other else                             | 13 | 26.0 |
| Anyone else in Family affected by Diseases |    |      |
| With Diseases History                      | 19 | 38.0 |
| Without Diseases History                   | 31 | 62.0 |

f= frequency, %= percentage

Demographic details of the study variables including age, gender, relation with child, family system, education level, working status display in the Table 3.1 with total sample (N = 50) that consists of slightly more girls than boys, with a majority of children falling into the middle childhood age group (6-9). On relationship status, the majority of respondents are mother and the families are mostly nuclear. In contrast, on parent education level, mothers having higher education or MA degree, more likely are housewives. While mostly fathers also holding MA degree and some having higher education, mostly enrolled in private jobs and some having any other profession while, rest of the fathers having government job. Notably, a higher number of respondents reported 'No', means that most families didn't have any other member affected by diseases.

**Table 3.2***Descriptive Statistics and Reliability Estimates of variables under Study (N=50)*

| Scales | No. of<br>Items | $\alpha$ | $M$   | $SD$ | Range  |           | Skewness | Kurtosis |
|--------|-----------------|----------|-------|------|--------|-----------|----------|----------|
|        |                 |          |       |      | Actual | Potential |          |          |
| CDS    | 15              | .84      | 18.22 | 9.38 | 11-56  | 15-75     | .73      | .08      |
| ASSQ   | 27              | .82      | 27.08 | 8.22 | 13-47  | 27-54     | .23      | -.15     |
| FI_T   | 44              | .78      | 42.56 | 9.44 | 25-79  | 44-132    | .43      | .52      |
| FAM    | 10              | .76      | 7.62  | 4.18 | 10-24  | 10-30     | .99      | 3.35     |
| S-Lrng | 4               | .68      | 5.50  | 2.33 | 4-11   | 4-12      | -.04     | -.37     |
| S-Beh  | 6               | .67      | 7.40  | 3.17 | 5-16   | 6-18      | .17      | .18      |
| LSK    | 10              | .72      | 8.18  | 4.51 | 9-23   | 10-30     | .94      | 1.09     |
| CSC    | 3               | .65      | 2.06  | 1.53 | 3-7    | 3-9       | 1.08     | 1.50     |
| SA     | 7               | .64      | 6.34  | 2.77 | 5-17   | 7-21      | 1.31     | 4.16     |
| RA     | 4               | .62      | 5.56  | 2.14 | 3-11   | 4-12      | .03      | -.18     |
| AT_IAN | 8               | .67      | 26.84 | 3.56 | 17-37  | 8-40      | .05      | .83      |
| AT_TIV | 8               | .65      | 27.84 | 4.61 | 16-36  | 8-40      | -.30     | -.41     |
| PR_SIV | 8               | .68      | 25.08 | 4.89 | 17-36  | 8-40      | .45      | -.40     |
| UN_INV | 8               | .63      | 14.10 | 2.99 | 9-20   | 8-40      | .24      | -.68     |

*Note:* CDS= Cognitive Disengagement Syndrome; ASSQ = Autism Spectrum Screening Questionnaire; FI\_T = Functional Impairment; FAM= Family; S-Lrng= School Learning; S-Beh= School Behavior; LSK = Life Skills; CSC= Child Self-Concept; SA= Social Activities; RA= Risky Activities, AT\_IAN= Authoritarian; AT\_TIV= Authoritative; PR\_SIV= Permissive; UN\_INV= Uninvolved

Results in the Table 3.2 highlight the values of descriptive statistics including mean, standard deviations, range, skewness and kurtosis across all the study variables. Findings indicate that all the study scales and their sub-scales have good alpha coefficient endorsing satisfactory to good reliability index. Furthermore, skewness and kurtosis of all the measures are also identified which lie within the acceptable range of  $\pm 2$ , suggest to have normal distribution of the data. From

the overall findings, it was observed that such scales were suitable to use within local Pakistani sample.

**Table 3.3**

*Item-Total Correlation of Cognitive Disengagement Syndrome (N=50)*

| Items | Item-Total Correlation | Items | Item-Total Correlation |
|-------|------------------------|-------|------------------------|
| 1.    | .45**                  | 9.    | .60**                  |
| 2.    | .46**                  | 10.   | .70**                  |
| 3.    | .47**                  | 11.   | .71**                  |
| 4.    | .30**                  | 12.   | .81**                  |
| 5.    | .40**                  | 13.   | .62**                  |
| 6.    | .52**                  | 14.   | .60**                  |
| 7.    | .53**                  | 15.   | .67**                  |
| 8.    | .53**                  |       |                        |

\*\*p<.001

Table 3.3 illustrates the results of item-total correlation among the 50 respondents for the cognitive disengagement syndrome and results depict moderate to high level of internal consistency ranged from .30 to .81, demonstrate a significant and positive correlation  $p = .001$ , in all the items and the total scores of the scale showing good internal consistency of the scale.

**Table 3.4***Item-Total Correlation of Weiss Functional Impairment Scale-Parent Report (N=50)*

| Items                      | Item-Total Correlation | Items | Item-Total Correlation |
|----------------------------|------------------------|-------|------------------------|
| Family Impairment          |                        |       |                        |
| 1.                         | .45**                  | 6.    | .47**                  |
| 2.                         | .80**                  | 7.    | .65**                  |
| 3.                         | .62**                  | 8.    | .66**                  |
| 4.                         | .53**                  | 9.    | .70**                  |
| 5.                         | .41**                  | 10.   | .61**                  |
| School-Learning Impairment |                        |       |                        |
| 1.                         | .75**                  | 3.    | .60**                  |
| 2.                         | .73**                  | 4.    | .61**                  |
| School-Behavior Impairment |                        |       |                        |
| 1.                         | .65**                  | 4.    | .70**                  |
| 2.                         | .71**                  | 5.    | .50**                  |
| 3.                         | .55**                  | 6.    | .52**                  |
| Life Skills Impairment     |                        |       |                        |
| 1.                         | .52**                  | 6.    | .66**                  |
| 2.                         | .47**                  | 7.    | .73**                  |
| 3.                         | .53**                  | 8.    | .51**                  |
| 4.                         | .50**                  | 9.    | .76**                  |
| 5.                         | .52**                  | 10.   | .51**                  |

| Child Self-Concept Impairment |       |    |       |
|-------------------------------|-------|----|-------|
| 1.                            | .80** | 3. | .64** |
| 2.                            | .75** |    |       |
| Social Activities Impairment  |       |    |       |
| 1.                            | .50** | 5  | .63** |
| 2.                            | .64** | 6  | .65** |
| 3.                            | .46** | 7  | .57** |
| 4.                            | .42** |    |       |
| Risky Activities Impairment   |       |    |       |
| 1.                            | .62** | 3. | .63** |
| 2.                            | .66** | 4. | .66** |

\*\*p<.001

Table 3.4 illustrates the results of item-total correlation of Weiss functional impairment rating scale along with its domains (family, school-learning, school-behavioral, life skills, child self-concept, social activities and risky activities). Overall, scale results depict equivalent adjusted item-total correlation for family, school-learning, school-behavior, life skills, child self-concept, social activities and risky activities indicates a significant and positive correlation  $p = .001$  in all the items and the total score of its corresponding subscales.



**Table 3.5***Item-Total Correlation of Autism Spectrum Screening Questionnaire (N=50)*

| Items | Item-Total Correlation | Items | Item-Total Correlation |
|-------|------------------------|-------|------------------------|
| 1.    | .60**                  | 15.   | .36**                  |
| 2.    | .30**                  | 16.   | .70**                  |
| 3.    | .45**                  | 17.   | .41**                  |
| 4.    | .36**                  | 18.   | .54**                  |
| 5.    | .40**                  | 19.   | .44**                  |
| 6.    | .62**                  | 20.   | .50**                  |
| 7.    | .38**                  | 21.   | .44**                  |
| 8.    | .60**                  | 22.   | .48**                  |
| 9.    | .31**                  | 23.   | .57**                  |
| 10.   | .40**                  | 24.   | .36**                  |
| 11.   | .41**                  | 25.   | .54**                  |
| 12.   | .36**                  | 26.   | .37**                  |
| 13.   | .53**                  | 27.   | .38**                  |
| 14.   | .57**                  |       |                        |

\*\*p&lt;.001

Table 3.5 shows the findings of item-total correlation of autism spectrum screening questionnaire and results depict moderate to good level of internal consistency ranged from .30 to .70, suggest a significant and positive correlation  $p = <.001$  of all the items and the total scores of the scale showing good internal consistency of the scale.

**Table 3.6***Item-Total Correlation of Parenting Style Four Factor Questionnaire (N=50)*

| Items         | Item-Total Correlation | Items | Item-Total Correlation |
|---------------|------------------------|-------|------------------------|
| Authoritarian |                        |       |                        |
| 1.            | .55**                  | 17.   | .65**                  |
| 5.            | .41**                  | 21.   | .47**                  |
| 9.            | .47**                  | 25.   | .64**                  |
| 13.           | .66**                  | 29.   | .57**                  |
| Authoritative |                        |       |                        |
| 2.            | .52**                  | 18.   | .60**                  |
| 6.            | .78**                  | 22.   | .58**                  |
| 10.           | .78**                  | 26.   | .40**                  |
| 14.           | .67**                  | 30.   | .35**                  |
| Permissive    |                        |       |                        |
| 3.            | .46**                  | 19.   | .58**                  |
| 7.            | .57**                  | 23.   | .41**                  |
| 11.           | .60**                  | 27.   | .57**                  |
| 15.           | .68**                  | 31.   | .60**                  |
| Uninvolved    |                        |       |                        |
| 4.            | .62**                  | 20.   | .54**                  |
| 8.            | .77**                  | 24.   | .47**                  |
| 12.           | .61**                  | 28.   | .40**                  |
| 16.           | .65**                  | 32.   | .30**                  |

\*\*p&lt;.001

Table 3.6 illustrates the findings of item-total correlations for four sub-scales (i.e., authoritarian, authoritative, permissive and uninvolved) of parenting styles four factor questionnaire. Results depict equivalent to adjusted inter-item correlation for authoritarian, authoritative, permissive and uninvolved parenting styles indicates a significant positive correlation between all the items of the corresponding subscales.

### 3.8 Discussion

Cognitive disengagement syndrome encompasses symptoms like excessive daydreaming, mental confusion and slow behavior (Becker & Barkley, 2018). Children with autism spectrum disorder often face challenges such as inattention, behavior regulation and in social interactions (Zimmerman et al., 2018). Some symptoms of cognitive disengagement overlap with autism spectrum disorder (Reinvall et al., 2017). Thus, studying autism spectrum disorder in relation with cognitive disengagement syndrome is of great importance in indigenous sample which helps to identify how additional symptoms of cognitive disengagement syndrome can affect psychosocial functioning with a particular focus on parenting styles, how parenting can either buffer or intensify these difficulties? For this purpose, pilot study was conducted by using following scales Cognitive Disengagement Syndrome-Parent Report, Weiss Functional Impairment Rating Scale-Parent Report, Autism Spectrum Screening Questionnaire and Parenting Style-Four Factor Questionnaire to evaluate the psychometric properties i.e., descriptive statistics, reliability and item-total correlation. To address the pilot study's objective, reliability estimates and item-total correlations were computed.

In reliability coefficient analysis, results have shown the Cronbach Alpha Coefficient for all the study scales and their sub-scales have good alpha coefficient endorsing satisfactory to good reliability index (Table 3.2). These findings are aligned with the existing researches and provide support for the results of the present study (Becker & Barkley, 2018; Burns, Lee, Servera, McBurnett, & Becker, 2021; Ehlers & Gillberg, 2000; Gajria et al., 2015; Kopp, Beckung, & Gillberg, 2010; Thompson, Lloyd, Joseph, & Weiss, 2017). Also, reliability coefficients of parenting style four factor questionnaire (authoritarian, authoritative, permissive and uninvolved) have shown acceptable reliability (Table 3.2). A study found reliability index for some PS-FFQ

dimensions between .71 to .52 (Richards, 2023). While another study used PS-FFQ and reported Cronbach's alpha for certain subscales (e.g., Uninvolved Parenting Style) around .65 (kaur & Ghosh, 2022).

The item-total correlation results for cognitive disengagement syndrome (Table 3.3) and autism spectrum screening questionnaire (Table 3.5) revealed a significant and positive correlation of all the items and the total scores of the scale ( $p = <.001$ ). Further, the item-total correlation of Weiss functional impairment rating scale-parent report (Table 3.4). and parenting style four factor questionnaire (Table 3.6) have shown a significant and positive correlation between all the items and the total score of its corresponding subscales ( $p <.001$ ). Also, these findings are aligned with the existing researches and provide support for the results of the present study (Burns, Lee, Servera, McBurnett, & Becker, 2021; kaur & Ghosh, 2022; Kopp, Beckung, & Gillberg, 2010; Richards, 2023; Shyny, 2017; Weiss, McBride, Craig, & Jensen, 2018). Hence, from the overall findings of the pilot study it was observed that the scales were suitable to use within local Pakistani sample.

### **3.9 Phase II: Main Study**

The main study was conducted to test the hypotheses formulated for the current study.

### **3.10 Objectives**

1. To establish the relationship between cognitive disengagement syndrome, psychosocial functioning, and parenting styles among children with autistic symptoms
2. To examine the moderating role of parenting styles in the relationship between cognitive disengagement syndrome & psychosocial functioning among children with autistic symptoms
3. To study the role of demographic characteristics (i.e., gender, age, relation with child, family system, parental education level, parental working status, and family disease history) in study variables

### **3.11 Hypotheses**

1. There is a negative relationship between cognitive disengagement syndrome and psychosocial functioning among children with autistic symptoms
2. Cognitive disengagement syndrome is positively related with authoritarian, permissive and uninvolved parenting styles
3. Cognitive disengagement syndrome is negatively related with authoritative parenting style
4. Psychosocial functioning is negatively related with authoritarian, permissive and uninvolved parenting styles
5. Psychosocial functioning is positively related with authoritative parenting style

6. Authoritarian, permissive and uninvolved parenting styles exacerbate the impact of cognitive disengagement syndrome on psychosocial functioning among children with autistic symptoms
7. Authoritative parenting style buffer the impact of cognitive disengagement syndrome on psychosocial functioning among children with autistic symptoms

### **3.12 Sample**

The targeted population for the present study was parents of children with autistic symptoms including (Boys = 46.7%; Girls = 53.3%), aged between 6-14 years ( $M = 10.91$ ,  $SD = 2.88$ ), recruited from different autism centers of Rawalpindi and Islamabad. In the main study, the sample consisted 180 participants with 108 mothers and 72 fathers. Through purposive sampling technique, sample was collected from different autism centers.

#### **Inclusion/Exclusion criteria:**

The standards for the participants' inclusion and exclusion in sample were as follows:

- Parents of children who scored 13 and above on Autism Spectrum Screening Questionnaire were included in the study
- Parents of autistic children with any other medical or psychiatric history/comorbidity, any other disability, or medical condition were excluded from the study

### **3.13 Procedure**

To conduct the main study, data was collected from parents of children with autistic symptoms having at least matriculation qualification to precisely understand the language. Each participant was provided with a parent-report questionnaire which included a comprehensive demographic summary form to get demographic portfolio of the children, with four study scales

to obtain the scores on each variable of the respondents. Participants were pre-informed about the purpose of the present study. The consent form with demographic sheet was provided and participants were ensured about the confidentiality of data that will be used solely for research purpose and would not be used for anything apart from research. They were also allowed to quit study at any point without any binding of completing research.

### **3.14 Statistical Plan**

The data collected from the study sample were analyzed using the Statistical Package for Social Sciences (SPSS) software; version 25 and Process Macro version 4.0. In the initial phase, data cleaning, screening, and testing for normality assumptions were done to ensure that the data can be used for further analyses. In the next descriptive analysis step, the demographic information was computed based on (gender, age, relation with child, family system, parental education level and working status, and family disease history). Descriptive statistics including mean, standard deviations, skewness, and kurtosis were then computed. Also, following other analyses were conducted, including Pearson product moment correlation, linear regression, multiple regression, t-tests. Most specifically, Macro version 4.0 was utilized for moderation analysis.

## CHAPTER IV

### ANALYSIS AND INTERPRETATION OF THE DATA

#### 4.1 Descriptive Statistics of Study Sample

**Table 4.1**

*Demographic Characteristics of the Study Sample (N = 180)*

|                        | <i>F</i> | %    |
|------------------------|----------|------|
| Gender                 |          |      |
| Boys                   | 84       | 46.7 |
| Girls                  | 96       | 53.3 |
| Age                    |          |      |
| Middle Childhood (6-9) | 84       | 46.7 |
| Late Childhood (10-14) | 96       | 53.3 |
| Relation with Child    |          |      |
| Father                 | 72       | 40.0 |
| Mother                 | 108      | 60.0 |
| Family Status          |          |      |
| Joint                  | 65       | 36.1 |
| Nuclear                | 115      | 64.0 |
| Mother Education Level |          |      |
| Matric                 | 15       | 8.3  |
| FA                     | 42       | 23.3 |
| BA                     | 66       | 36.7 |
| MA                     | 37       | 20.6 |
| Higher                 | 20       | 11.1 |
| Mother Working Status  |          |      |
| Housewife              | 72       | 40.0 |
| Employed               | 63       | 35.0 |
| Teacher                | 26       | 14.4 |
| Doctor                 | 8        | 4.4  |
| Any other else         | 11       | 6.1  |
| Father Education Level |          |      |
| Matric                 | 8        | 4.4  |
| FA                     | 31       | 17.2 |



|                                            |     |      |
|--------------------------------------------|-----|------|
| BA                                         | 61  | 33.9 |
| MA                                         | 60  | 33.3 |
| Higher                                     | 20  | 11.1 |
| Father Working Status                      |     |      |
| Employed                                   | 39  | 21.7 |
| Unemployed                                 | 13  | 7.2  |
| Government Job                             | 64  | 35.6 |
| Private Job                                | 48  | 35.6 |
| Any other else                             | 16  | 8.9  |
| Anyone else in Family effected by Diseases |     |      |
| With Diseases History                      | 76  | 42.2 |
| Without Diseases History                   | 104 | 57.8 |

*f*= frequency, %= percentage

Demographic details of the study variables including age, gender, relation with child, family system, parent's education level, employment status has been presented in the Table 4.1 with total sample (N = 180) that consists of slightly more girls than boys, with a majority of children falling into the late childhood age group (10-14). Family system reveal that children mostly belong to nuclear households. While, the education level among mothers shows largest group holding BA degree, and fathers having both a BA and an MA degree. In comparison, fathers in presented sample are marginally more educated. Additionally, employment level shows fathers are mostly enrolled in government jobs or some having private jobs, while mothers are mostly housewives, some are employed and the rest are in teaching profession. Notably, a higher number of respondents reported 'No', means that most families didn't have any other member affected by diseases.

**Table 4.2***Descriptive Statistics and Reliability Estimates of Variables under Study (N=180)*

| Scales | Items | $\alpha$ | $M$   | $SD$  | Range  |           | Skewness | Kurtosis |
|--------|-------|----------|-------|-------|--------|-----------|----------|----------|
|        |       |          |       |       | Actual | Potential |          |          |
| CDS    | 15    | .88      | 31.49 | 14.18 | 9-69   | 15-75     | 1.08     | .75      |
| ASSQ   | 27    | .87      | 33.33 | 9.07  | 16-51  | 27-54     | -.55     | .05      |
| FI_T   | 44    | .88      | 66.40 | 15.66 | 22-114 | 44-132    | -.05     | 1.58     |
| FAM    | 10    | .72      | 16.42 | 4.44  | 10-30  | 10-30     | .25      | .72      |
| S-Lrng | 4     | .71      | 7.20  | 2.47  | 4-12   | 4-12      | -.20     | -.58     |
| S-Beh  | 6     | .74      | 8.56  | 3.36  | 6-16   | 6-16      | .18      | -.18     |
| LSK    | 10    | .68      | 14.20 | 4.41  | 10-28  | 10-30     | -.16     | .57      |
| CSC    | 3     | .67      | 3.23  | 1.89  | 3-9    | 3-9       | .64      | .48      |
| SA     | 7     | .68      | 9.89  | 3.33  | 7-19   | 7-21      | .08      | -.06     |
| RA     | 4     | .65      | 7.01  | 2.42  | 3-11   | 4-12      | -.31     | -.51     |
| A_IAN  | 8     | .83      | 24.02 | 6.42  | 9-38   | 8-40      | -.10     | -.05     |
| A_TIV  | 8     | .68      | 23.77 | 4.20  | 15-33  | 8-40      | -.17     | -.75     |
| P_SIV  | 8     | .73      | 18.60 | 3.78  | 11-28  | 8-40      | -.03     | -.70     |
| U_INV  | 8     | .66      | 17.87 | 3.37  | 9-30   | 8-40      | .56      | .86      |

*Note:* CDS= Cognitive Disengagement Syndrome; ASSQ = Autism Spectrum Screening Questionnaire; FI\_T = Functional Impairment; FAM= Family; S-Lrng= School Learning; S-Beh= School Behavior; LSK = Life Skills; CSC= Child Self-Concept; SA= Social Activities; RA= Risky Activities, AT\_IAN= Authoritarian; AT\_TIV= Authoritative; PR\_SIV= Permissive; UN\_INV= Uninvolved

Values in the Table 4.2 demonstrate that all the study scales and their sub-scales have good alpha coefficient endorsing satisfactory to good reliability index. Furthermore, skewness and kurtosis of all the measures are also identified which lie within the acceptable range of  $\pm 2$ , suggest to have normal distribution of the data.

## 4.2 Relationship between the Study Variables

**Table 4.3**

*Correlation analysis of the Study Variables (N = 180)*

| Variables | 1 | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    |
|-----------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1. CDS    | - | .60** | .44** | .40** | .54** | .51** | .23** | .36** | .31** | .54** | .12   | .32** | .20** |
| 2. FI_T   |   | -     | .77** | .78** | .84** | .81** | .17*  | .51** | .72** | .72** | .02   | .42** | .14   |
| 3. FAM    |   |       | -     | .55** | .54** | .54** | -.02  | .26** | .52** | .53** | -.08  | .56** | .24** |
| 4. S-Lrng |   |       |       | -     | .70** | .55** | -.06  | .13   | .94** | .58** | -.01  | .34** | .10   |
| 5. S-Beh  |   |       |       |       | -     | .67** | .10   | .33** | .60** | .61** | -.01  | .38** | .08   |
| 6. LSK    |   |       |       |       |       | -     | .03   | .30** | .51** | .60** | .05   | .26** | .04   |
| 7. CSC    |   |       |       |       |       |       | -     | .32** | -.17* | .14   | .04   | -.13  | .07   |
| 8. SA     |   |       |       |       |       |       |       | -     | .06   | .40** | .11   | .11   | .05   |
| 9. RA     |   |       |       |       |       |       |       |       | -     | .50** | -.06  | .30** | .03   |
| 10. A_IAN |   |       |       |       |       |       |       |       |       | -     | .44** | .30** | .18*  |
| 11. A_TIV |   |       |       |       |       |       |       |       |       |       | -     | .05   | .22** |
| 12. P_SIV |   |       |       |       |       |       |       |       |       |       |       | -     | .40** |
| 13. U_INV |   |       |       |       |       |       |       |       |       |       |       |       | -     |

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

*Note:* CDS=Cognitive Disengagement Syndrome; FI\_T = Functional Impairment; FAM= Family; S-Lrng= School Learning; S-Beh= School Behavior; LSK= Life Skills; CSC=Child Self-Concept; SA=Social Activities; RA=Risky Activities; A\_IAN= Authoritarian; A\_TIV=Authoritative; P\_SIV=Permissive; U\_INV=Uninvolved

Table 4.3 indicates the relationship between cognitive disengagement syndrome, psychosocial functioning along with its domains and parenting styles (authoritarian, authoritative, permissive and uninvolved). For psychosocial functioning, Weiss Functional Impairment Rating Scale-Parent Report was used which measure psychosocial skill impairments, therefore children who have high cognitive disengagement syndrome also exhibits poorer psychosocial functioning. As per findings, cognitive disengagement syndrome had significant positive correlation with psychosocial impairment i.e., family, school-learning, school-behavior, life skills, child self-concept, social activities and risky activities. Also, cognitive disengagement syndrome positively correlates with parenting styles (authoritarian, permissive and uninvolved). Further, psychosocial impairments had significant positive correlation with authoritarian and permissive parenting styles, and shows no significant correlation with uninvolved parenting style. However, authoritative parenting style show a non-significant correlation with both cognitive disengagement syndrome and psychosocial impairments. While, most of the remaining subscales show positive correlation with one another.

These findings indicate how the study variables relate to one another, and also provide the baseline for testing the main study's objectives and hypotheses. A positive relationship between cognitive disengagement syndrome and psychosocial impairment provides an empirical evidence to evaluate a predictive effect of psychosocial impairments among children with autistic symptoms. Similarly, positive association between cognitive disengagement and parenting styles (authoritarian, permissive and uninvolved) serve as a baseline to test the moderating role these styles in relationship between psychosocial functioning among children with autistic symptoms.

| Psychosocial Functioning                                                          |          |           |          |           |           |          |
|-----------------------------------------------------------------------------------|----------|-----------|----------|-----------|-----------|----------|
| Variables                                                                         | <i>B</i> | <i>SE</i> | <i>B</i> | 95% CI    |           | <i>p</i> |
|                                                                                   |          |           |          | <i>LL</i> | <i>UL</i> |          |
| CDS                                                                               | .66      | .06       | .60      | .54       | .80       | .000     |
| <i>R</i> = .60, <i>R</i> <sup>2</sup> = .36, ( <i>F</i> = 103.54, <i>p</i> <.001) |          |           |          |           |           |          |
| Family Impairment                                                                 |          |           |          |           |           |          |
|                                                                                   | .13      | .02       | .44      | .10       | .18       | .000     |
| <i>R</i> = .44, <i>R</i> <sup>2</sup> = .20, ( <i>F</i> = 43.10, <i>p</i> <.001)  |          |           |          |           |           |          |
| School-Learning Impairment                                                        |          |           |          |           |           |          |
|                                                                                   | .07      | .01       | .40      | .04       | .10       | .000     |
| <i>R</i> = .40, <i>R</i> <sup>2</sup> = .16, ( <i>F</i> = 35.78, <i>p</i> <.001)  |          |           |          |           |           |          |
| School-Behavioral Impairment                                                      |          |           |          |           |           |          |
|                                                                                   | .12      | .02       | .54      | .10       | .15       | .000     |
| <i>R</i> = .54, <i>R</i> <sup>2</sup> = .30, ( <i>F</i> = 74.60, <i>p</i> <.001)  |          |           |          |           |           |          |
| Life Skills Impairment                                                            |          |           |          |           |           |          |
|                                                                                   | .16      | .02       | .51      | .12       | .20       | .000     |
| <i>R</i> = .51, <i>R</i> <sup>2</sup> = .26, ( <i>F</i> = 65.34, <i>p</i> <.001)  |          |           |          |           |           |          |
| Child Self-Concept Impairment                                                     |          |           |          |           |           |          |
|                                                                                   | .03      | .01       | .23      | .01       | .05       | .001     |
| <i>R</i> = .23, <i>R</i> <sup>2</sup> = .05, ( <i>F</i> = 10.56, <i>p</i> <.001)  |          |           |          |           |           |          |
| Social Activities Impairment                                                      |          |           |          |           |           |          |
|                                                                                   | .08      | .01       | .36      | .05       | .11       | .000     |
| <i>R</i> = .36, <i>R</i> <sup>2</sup> = .13, ( <i>F</i> = 26.73, <i>p</i> <.001)  |          |           |          |           |           |          |

| Risky Activities Impairment                 |     |     |     |     |      |
|---------------------------------------------|-----|-----|-----|-----|------|
| .05                                         | .01 | .31 | .02 | .07 | .000 |
| $R = .31, R^2 = .10, (F = 20.06, p < .001)$ |     |     |     |     |      |

*Note:* CDS=Cognitive Disengagement Syndrome; FAM= Family; S-Lrng= School Learning; S-Beh= School Behavior; LSK = Life Skills; CSC= Child Self-Concept; SA= Social Activities; RA= Risky Activities

Table 4.4 illustrates, the influence of cognitive disengagement syndrome on psychosocial functioning. For psychosocial functioning, Weiss Functional Impairment Rating Scale-Parent Report was used which measures psychosocial skill impairments, therefore children who have high cognitive disengagement syndrome also exhibits poorer psychosocial functioning. As per findings, cognitive disengagement syndrome positively predicted overall psychosocial impairments, by explaining 36% of variance with significant F-ratio ( $p < .001$ ). Individually, cognitive disengagement syndrome significantly and positively predicted various domains of psychosocial impairments by explaining 20% of variance ( $p < .001$ ) in family impairment, 16% variance ( $p < .001$ ) in school-learning, 30% variance ( $p < .001$ ) in school-behavior, 26% variance ( $p < .001$ ) in life skills, 5% variance ( $p < .001$ ) in child self-concept, 13% variance ( $p < .01$ ) in social activities and 10% variance ( $p < .001$ ) in risky activities respectively.

**Table 4.5**

*Multiple Regression Analysis on Psychosocial Functioning by Authoritarian, Authoritative, Permissive and, Uninvolved Parenting Styles (N=180)*

| Variables                                                                         | Psychosocial Functioning |           |          |           |           |          |
|-----------------------------------------------------------------------------------|--------------------------|-----------|----------|-----------|-----------|----------|
|                                                                                   | <i>B</i>                 | <i>SE</i> | <i>B</i> | 95% CI    |           | <i>p</i> |
|                                                                                   |                          |           |          | <i>LL</i> | <i>UL</i> |          |
| A_IAN                                                                             | 1.99                     | .12       | .81      | 1.75      | 2.24      | .000     |
| A_TIV                                                                             | -1.28                    | .18       | -.34     | -1.65     | -.91      | .000     |
| P_SIV                                                                             | .87                      | .20       | .21      | .46       | 1.27      | .000     |
| U_INV                                                                             | -.07                     | .22       | -.01     | -.52      | .36       | .726     |
| <i>R</i> = .81 , <i>R</i> <sup>2</sup> = .67, ( <i>F</i> = 89.28, <i>p</i> <.001) |                          |           |          |           |           |          |

*Note:* A\_IAN= Authoritarian, A\_TIV= Authoritative, P\_SIV= Permissive, U\_INV= Uninvolved

Table 4.5 shows the influence of authoritarian, authoritative, permissive and uninvolved parenting styles on psychosocial functioning. Initially multiple regression analysis was computed for each domain of psychosocial impairment by parenting styles but no significant predictive effect of parenting styles was observed on separate domains therefore, multiple regression analysis was computed on overall psychosocial impairments by parenting styles and the findings reveal that overall variance caused by different parenting styles is 67% with significant F-ratio ( $p < .01$ ). Further, authoritarian and permissive parenting styles positively predicts psychosocial impairments, assessing beta weight reflects that one-unit increase in authoritarian style will increase 1.99 units in psychosocial impairments ( $B = 1.99$ ,  $\beta = .81$ ,  $p < .01$ ), and one-unit increase in permissive style will increase .87 units in psychosocial impairments ( $B = .87$ ,  $\beta = .21$ ,  $p < .01$ ). Whereas, authoritative parenting style indicates a negative predictor of psychosocial impairments where it leads to decrease in -1.28 units in psychosocial impairments.

**Table 4.6***Mean, Standard Deviations and t values of Study Variables based on Gender (N = 180)*

| Variables | <u>Boys</u> |           | <u>Girls</u> |           | <i>t</i> | <i>p</i> | <u>95% CI</u> |           | <i>Cohen's d</i> |
|-----------|-------------|-----------|--------------|-----------|----------|----------|---------------|-----------|------------------|
|           | (n = 84)    |           | (n = 96 )    |           |          |          | <i>LL</i>     | <i>UL</i> |                  |
|           | <i>M</i>    | <i>SD</i> | <i>M</i>     | <i>SD</i> |          |          |               |           |                  |
| CDS       | 33.95       | 16.3      | 29.33        | 11.6      | 2.20     | .02      | .48           | 8.75      | .03              |
| FI_T      | 72.87       | 13.0      | 60.74        | 15.5      | 5.60     | .00      | 7.86          | 16.3      | .08              |
| FAM       | 18.52       | 3.73      | 14.58        | 4.21      | 6.60     | .00      | 2.76          | 5.11      | .09              |
| S-Lrng    | 8.58        | 1.78      | 5.97         | 2.35      | 8.31     | .00      | 1.99          | 3.23      | .12              |
| S-Beh     | 10.02       | 2.91      | 7.28         | 3.22      | 5.95     | .00      | 1.83          | 3.65      | .08              |
| LSK       | 15.62       | 3.90      | 12.76        | 4.41      | 4.57     | .00      | 1.62          | 4.09      | .06              |
| CSC       | 2.44        | 2.02      | 3.92         | 1.46      | -5.65    | .00      | -1.99         | -.96      | .08              |
| SA        | 9.29        | 3.35      | 10.43        | 3.23      | -2.32    | .02      | -2.11         | -.17      | .03              |
| RA        | 8.39        | 1.74      | 5.80         | 2.29      | 8.44     | .00      | 1.98          | 3.19      | .12              |
| A_IAN     | 25.86       | 5.71      | 22.42        | 6.60      | 3.70     | .00      | 1.61          | 5.27      | .06              |
| A_TIV     | 23.50       | 4.14      | 24.00        | 4.23      | -.80     | .42      | -1.73         | .73       | .01              |
| P_SIV     | 20.44       | 2.50      | 16.98        | 3.99      | 6.86     | .00      | 2.46          | 4.45      | .10              |
| U_INV     | 18.37       | 3.21      | 17.44        | 3.47      | 1.85     | .06      | -.05          | 2.01      | .02              |

df = 178

*Note:* CDS=Cognitive Disengagement Syndrome; FI\_T = Functional Impairment; FAM= Family; S-Lrng= School Learning; S-Beh= School Behavior; LSK= Life Skills; CSC=Child Self-Concept; SA=Social Activities; RA=Risky Activities; A\_IAN= Authoritarian; A\_TIV=Authoritative; P\_SIV=Permissive; U\_INV=Uninvolved

Table 4.6 shows the outcomes for gender-based mean differences, standard deviation, statistical significance, 95% confidence interval and effect size of the study variables. The values



demonstrate significant gender based mean difference on cognitive disengagement syndrome and psychosocial impairments reveals that boys scoring higher as compared to girls, it means boys exhibit more in cognitive disengagement syndrome symptoms and psychosocial impairments. While girls show slightly higher in child-self-concept and social activities impairments. Meanwhile, parents report higher score on authoritarian and permissive styles revealed statistically significant gender based difference show that parents use these styles especially for boys.

Table 4.7 compares two age categories (6-9, 10-14) across variables based on mean difference, standard deviation, statistical significance, 95% confidence interval and effect size. The findings revealed a significant difference on cognitive disengagement syndrome and psychosocial impairments (school-behavior, life skills and social activities) with higher scores observed in children aged 6-9 years, indicate that the children in these age groups exhibit more in cognitive disengagement syndrome symptoms and psychosocial impairments. It means children in this age group experience school refusal behavioral issues, social challenges and unable to manage daily life tasks. In contrast, parents report high score on authoritative and permissive styles showcase that parents mostly use these styles for children aged 6-9 years.

**Table 4.7***Mean, Standard Deviations and t values of Study Variables based on Age Categories (N = 180)*

| Variables | <u>6-9</u><br>(n = 84) |           | <u>10-14</u><br>(n = 96) |           | <i>t</i> | <i>p</i> | <u>95% CI</u> |           | <i>Cohen's d</i> |
|-----------|------------------------|-----------|--------------------------|-----------|----------|----------|---------------|-----------|------------------|
|           | <i>M</i>               | <i>SD</i> | <i>M</i>                 | <i>SD</i> |          |          | <i>LL</i>     | <i>UL</i> |                  |
| CDS       | 35.71                  | 15.77     | 27.79                    | 11.50     | 3.88     | .00      | 3.89          | 11.95     | .05              |
| FI_T      | 69.13                  | 17.41     | 64.01                    | 13.59     | 2.21     | .02      | .55           | 9.68      | .03              |
| FAM       | 16.42                  | 4.69      | 16.43                    | 4.24      | -.01     | .98      | -1.32         | 1.30      | -.02             |
| S-Lrng    | 7.51                   | 2.39      | 6.91                     | 2.52      | 1.64     | .10      | -.12          | 1.33      | .02              |
| S-Beh     | 9.24                   | 3.63      | 7.97                     | 3.00      | 2.56     | .01      | .30           | 2.24      | .03              |
| LSK       | 15.07                  | 4.92      | 13.24                    | 3.73      | 2.83     | .00      | .55           | 3.10      | .04              |
| CSC       | 3.29                   | 1.99      | 3.18                     | 1.81      | .38      | .70      | -.45          | .66       | -.03             |
| SA        | 10.43                  | 3.60      | 9.43                     | 3.01      | 2.02     | .04      | .02           | 1.97      | .03              |
| RA        | 7.18                   | 2.39      | 6.86                     | 2.45      | .86      | .38      | -.40          | 1.02      | .01              |
| A_IAN     | 24.71                  | 6.97      | 23.42                    | 5.87      | 1.35     | .17      | -.60          | 3.18      | .02              |
| A_TIV     | 24.87                  | 3.89      | 22.80                    | 4.21      | 3.39     | .00      | .86           | 3.26      | .05              |
| P_SIV     | 19.73                  | 3.77      | 17.60                    | 3.52      | 3.89     | .00      | 1.04          | 3.20      | .05              |
| U_INV     | 17.80                  | 3.68      | 17.94                    | 3.10      | -.27     | .78      | -1.13         | .85       | .04              |

df = 178

*Note:* CDS=Cognitive Disengagement Syndrome; FI\_T = Functional Impairment; FAM= Family; S-Lrng= School Learning; S-Beh= School Behavior; LSK= Life Skills; CSC=Child Self-Concept; SA=Social Activities; RA=Risky Activities; A\_IAN= Authoritarian; A\_TIV=Authoritative; P\_SIV=Permissive; U\_INV=Uninvolved

**Table 4.8**

*Mean, Standard Deviations and t values of Study Variables based on Relationship Status (N = 180)*

| Variables | <u>Father</u> |           | <u>Mother</u> |           | <i>t</i> | <i>p</i> | <u>95% CI</u> |           | <i>Cohen's d</i> |
|-----------|---------------|-----------|---------------|-----------|----------|----------|---------------|-----------|------------------|
|           | (n = 72)      |           | (n = 108)     |           |          |          | <i>LL</i>     | <i>UL</i> |                  |
|           | <i>M</i>      | <i>SD</i> | <i>M</i>      | <i>SD</i> |          |          |               |           |                  |
| CDS       | 31.49         | 14.36     | 31.49         | 14.13     | -.02     | .98      | -4.27         | 4.26      | -                |
| FI_T      | 66.44         | 15.78     | 66.37         | 15.65     | .03      | .97      | -4.64         | 4.78      | .004             |
| FAM       | 16.44         | 4.75      | 16.41         | 4.25      | .05      | .95      | -1.30         | 1.37      | .006             |
| S-Lrng    | 7.22          | 2.45      | 7.17          | 2.50      | .14      | .88      | -.68          | .80       | .02              |
| S-Beh     | 8.90          | 3.46      | 8.33          | 3.29      | 1.11     | .26      | -.44          | 1.57      | .01              |
| LSK       | 13.99         | 4.45      | 14.17         | 4.39      | -.26     | .78      | -1.50         | 1.14      | .04              |
| CSC       | 3.18          | 1.85      | 3.26          | 1.92      | -.27     | .78      | -.64          | .50       | .04              |
| SA        | 9.65          | 3.29      | 10.06         | 3.36      | -.79     | .42      | -1.40         | .60       | .01              |
| RA        | 7.06          | 2.41      | 6.98          | 2.44      | .20      | .84      | -.65          | .80       | .03              |
| A_IAN     | 21.47         | 6.34      | 25.72         | 5.92      | -4.58    | .00      | -6.08         | -2.42     | .06              |
| A_TIV     | 20.75         | 2.62      | 26.44         | 2.59      | -16.9    | .00      | .21           | -7.47     | .21              |
| P_SIV     | 18.99         | 3.89      | 18.33         | 3.70      | 1.13     | .25      | -.48          | 1.78      | .01              |
| U_INV     | 17.50         | 3.48      | 18.12         | 3.30      | -1.20    | .22      | -1.63         | .40       | .01              |

df = 178

*Note:* CDS=Cognitive Disengagement Syndrome; FI\_T = Functional Impairment; FAM= Family; S-Lrng= School Learning; S-Beh= School Behavior; LSK= Life Skills; CSC=Child Self-Concept; SA=Social Activities; RA=Risky Activities; A\_IAN= Authoritarian; A\_TIV=Authoritative; P\_SIV=Permissive; U\_INV=Uninvolved

Table 4.8 shows differences in variables under investigation based on the relationship status. The results reveal no significant difference between father and mother relation with autistic child

on cognitive disengagement syndrome and psychosocial impairments. However, parents report higher score on authoritarian and authoritative styles and mother show statistically significant difference on both measures authoritarian and authoritative styles ( $p < .01, .001$ ), means mothers values discipline but balances discipline particularly with higher emotional support and positive affective tone within the family.

Table 4.9 compared the participants living in joint and nuclear family systems based on the study variables, analyzing mean differences, standard deviations, statistical significance, 95% confidence interval and effect size. As per findings, results in table shows no statistically significant differences across all the measures ( $p = .01, .001$ ). In conclusion, results suggest that family system (nuclear and Joint) does not influence the challenges that autistic children may face due to cognitive disengagement syndrome and psychosocial impairments.

**Table 4.9***Mean, Standard Deviations and t values of Study Variables based on Family System (N = 180)*

| Variables | <u>Nuclear</u> |           | <u>Joint</u> |           | <i>t</i> | <i>p</i> | <u>95% CI</u> |           | <i>Cohen's d</i> |
|-----------|----------------|-----------|--------------|-----------|----------|----------|---------------|-----------|------------------|
|           | (n = 115)      |           | (n = 65)     |           |          |          | <i>LL</i>     | <i>UL</i> |                  |
|           | <i>M</i>       | <i>SD</i> | <i>M</i>     | <i>SD</i> |          |          |               |           |                  |
| CDS       | 30.33          | 13.7      | 33.54        | 14.7      | -1.46    | .14      | -7.53         | 1.12      | .02              |
| FI_T      | 67.50          | 15.0      | 64.45        | 16.5      | 1.26     | .20      | -1.72         | 7.84      | .02              |
| FAM       | 16.7           | 4.48      | 15.80        | 4.35      | 1.41     | .15      | -.38          | 2.33      | .02              |
| S-Lrng    | 7.21           | 2.45      | 7.15         | 2.52      | .14      | .88      | -.70          | .81       | .02              |
| S-Beh     | 8.80           | 3.30      | 8.14         | 3.45      | 1.26     | .20      | -.36          | 1.69      | .01              |
| LSK       | 14.36          | 4.31      | 13.63        | 4.57      | 1.06     | .29      | -.62          | 2.07      | .01              |
| CSC       | 3.23           | 1.89      | 3.22         | 1.90      | .06      | .94      | -.56          | .60       | .005             |
| SA        | 10.09          | 3.33      | 9.55         | 3.32      | 1.03     | .30      | -.48          | 1.55      | .01              |
| RA        | 7.04           | 2.34      | 6.95         | 2.58      | .23      | .81      | -.65          | .83       | .03              |
| A_IAN     | 24.00          | 6.41      | 24.06        | 6.49      | -.06     | .10      | -2.03         | 1.91      | .01              |
| A_TIV     | 23.49          | 4.20      | 24.26        | 4.15      | -1.19    | .23      | -2.05         | .50       | .01              |
| P_SIV     | 18.50          | 3.86      | 18.75        | 3.67      | -.42     | .67      | -1.41         | .91       | .06              |
| U_INV     | 17.90          | 3.51      | 17.82        | 3.15      | .16      | .86      | -.94          | 1.1276    | .02              |

df = 178

*Note:* CDS=Cognitive Disengagement Syndrome; FI\_T = Functional Impairment; FAM= Family; S-Lrng= School Learning; S-Beh= School Behavior; LSK= Life Skills; CSC=Child Self-Concept; SA=Social Activities; RA=Risky Activities; A\_IAN= Authoritarian; A\_TIV=Authoritative; P\_SIV=Permissive; U\_INV=Uninvolved

**Table 4.10**

*Mean, Standard Deviations and t values of Study Variables based on any one else in family affected by Diseases (N = 180)*

| Variables | <u>With Disease History</u> |           | <u>Without Disease History</u> |           | <i>t</i> | <i>p</i> | <u>95% CI</u> |           | <i>Cohen's d</i> |
|-----------|-----------------------------|-----------|--------------------------------|-----------|----------|----------|---------------|-----------|------------------|
|           | <i>M</i>                    | <i>SD</i> | <i>M</i>                       | <i>SD</i> |          |          | <i>LL</i>     | <i>UL</i> |                  |
|           | (n = 76)                    |           | (n = 104)                      |           |          |          |               |           |                  |
| CDS       | 33.36                       | 15.75     | 30.13                          | 12.8      | -1.51    | .13      | -7.44         | .98       | .02              |
| FI_T      | 70.07                       | 13.78     | 63.72                          | 16.4      | -2.73    | .07      | -10.9         | -1.76     | .04              |
| FAM       | 17.68                       | 4.12      | 15.50                          | 4.46      | -3.34    | .00      | -3.47         | -.89      | .05              |
| S-Lrng    | 7.57                        | 2.27      | 6.91                           | 2.58      | -1.75    | .08      | -1.38         | .08       | .02              |
| S-Beh     | 9.21                        | 3.20      | 8.09                           | 3.41      | -2.23    | .02      | -2.11         | -.13      | .03              |
| LSK       | 14.62                       | 3.91      | 13.71                          | 4.72      | -1.36    | .17      | -2.21         | .40       | .02              |
| CSC       | 3.03                        | 1.69      | 3.38                           | 2.02      | 1.22     | .22      | -.21          | .91       | .01              |
| SA        | 10.57                       | 3.30      | 9.40                           | 3.28      | -2.33    | .02      | -2.14         | -.18      | .03              |
| RA        | 7.39                        | 2.25      | 6.73                           | 2.51      | -1.82    | .06      | -1.38         | .05       | .02              |
| A_IAN     | 25.46                       | 5.53      | 22.97                          | 6.84      | -2.60    | .01      | -4.37         | -.60      | .04              |
| A_TIV     | 23.95                       | 4.12      | 23.53                          | 4.25      | -.50     | .62      | -1.56         | .93       | .01              |
| P_SIV     | 19.42                       | 3.56      | 17.99                          | 3.84      | -2.54    | .01      | -2.54         | -.32      | .03              |
| U_INV     | 18.25                       | 3.32      | 17.60                          | 3.40      | -1.28    | .20      | -1.65         | .35       | .01              |

df = 178

*Note:* CDS=Cognitive Disengagement Syndrome; FI\_T = Functional Impairment; FAM= Family; S-Lrng= School Learning; S-Beh= School Behavior; LSK= Life Skills; CSC=Child Self-Concept; SA=Social Activities; RA=Risky Activities; A\_IAN= Authoritarian; A\_TIV=Authoritative; P\_SIV=Permissive; U\_INV=Uninvolved

Table 4.10 highlight the participant's comparison who responded on with diseases history or without diseases history on variables under investigation based on any one else in family

affected by diseases. Participants who responded on with diseases history revealed significantly higher score on psychosocial impairments (family, school-behavior and social activities), it means they have a family member who is affected by a disease experiencing more emotional problems, school behavioral issues and social challenges. In contrast, participants who responded on with diseases history report higher score on authoritarian and permissive styles ( $p < .01, .001$ ), suggest that they adopt more balanced or nurturing parenting patterns for the autistic children the challenges they may face due to cognitive disengagement syndrome and psychosocial impairments.

#### **4.4 Moderation Analysis**

To clarify the connection between the cognitive disengagement syndrome and parenting styles of children with autistic symptoms, the moderating role of cognitive disengagement syndrome and parenting styles (authoritative, authoritarian, permissive and uninvolved) were evaluate. By using Hayes' (2013) recommended Process Macro analysis, it was identified whether the variables might be moderated. This method is a systematic approach design to evaluate path models like mediation, moderation and their combinations. It also allows for the efficient testing of interaction terms through a single command and incudes the Sobel test (Preacher & Hayes, 2004). Additionally, in estimating the ordinary least squares regression coefficients, it generates conditional effects within moderation models.



**Table 4.11**

*Moderating effect of Authoritarian Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms (N=180)*

| Predictor      | B     | SE   | t    | p    | 95% CI |       |
|----------------|-------|------|------|------|--------|-------|
|                |       |      |      |      | LL     | UL    |
| Constant       | 34.77 | 6.97 | 4.98 | .00  | 21.00  | 48.54 |
| CDS            | -.072 | .22  | -.31 | .75  | -.52   | .37   |
| AT_IAN         | .94   | .26  | 3.49 | .00  | .41    | 1.47  |
| CDS x AT_IAN   | .01   | .007 | 1.83 | .068 | -.001  | .029  |
| R <sup>2</sup> | .59   |      |      |      |        |       |
| $\Delta R^2$   | .007  |      |      |      |        |       |
| F              | 86.47 |      |      | .00  |        |       |

Note: CDS= Cognitive Disengagement Syndrome, AT\_IAN= Authoritarian

Table 4.11 shows moderation analysis, with cognitive disengagement syndrome as a predictor, psychosocial functioning as an outcome variable, and authoritarian parenting style as a moderator. As per findings, the interaction between cognitive disengagement syndrome and authoritarian parenting style is not significant hence authoritarian parenting doesn't moderate the relationship between cognitive disengagement syndrome and psychosocial functioning of children with autistic symptoms.

**Table 4.12**

*Moderating effect of Permissive Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms (N=180)*

| Predictor             | <i>B</i> | <i>SE</i> | <i>t</i> | <i>p</i> | 95% CI    |           |
|-----------------------|----------|-----------|----------|----------|-----------|-----------|
|                       |          |           |          |          | <i>LL</i> | <i>UL</i> |
| Constant              | 25.19    | 12.64     | 1.99     | .04      | .243      | 50.13     |
| CDS                   | .68      | .41       | 1.67     | .09      | -.122     | 1.50      |
| P_SIV                 | 1.22     | .63       | 1.92     | .05      | -.029     | 2.47      |
| CDS x P_SIV           | -.005    | .02       | -.27     | .78      | -.044     | .033      |
| <i>R</i> <sup>2</sup> | .42      |           |          |          |           |           |
| $\Delta R^2$          | .002     |           |          |          |           |           |
| <i>F</i>              | 43.76    |           |          | .00      |           |           |

Note: CDS= Cognitive Disengagement Syndrome, P\_SIV= Permissive

Table 4.12 also highlights the moderation analysis and result from given table reveals that, the interaction between cognitive disengagement syndrome and permissive parenting style is not significant hence permissive parenting doesn't moderate the relationship between cognitive disengagement syndrome and psychosocial functioning of children with autistic symptoms.

**Table 4.13**

*Moderating effect of Authoritative Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms (N=180)*

| Predictor             | <i>B</i> | <i>SE</i> | <i>t</i> | <i>p</i> | 95% CI    |           |
|-----------------------|----------|-----------|----------|----------|-----------|-----------|
|                       |          |           |          |          | <i>LL</i> | <i>UL</i> |
| Constant              | 56.89    | 13.00     | 4.37     | .00      | 31.22     | 82.55     |
| CDS                   | .42      | .39       | 1.05     | .29      | -.36      | 1.20      |
| A_TIV                 | -.48     | .53       | -.91     | .36      | -1.54     | .56       |
| CDS x A_TIV           | .010     | .01       | .65      | .51      | -.02      | .04       |
| <i>R</i> <sup>2</sup> | .37      |           |          |          |           |           |
| $\Delta R^2$          | .001     |           |          |          |           |           |
| <i>F</i>              | 34.66    |           |          | .00      |           |           |

Note: CDS= Cognitive Disengagement Syndrome, A\_TIV= Authoritative

Table 4.13 further display the moderation analysis. As per findings, the interaction between cognitive disengagement syndrome and authoritative parenting style is not significant hence authoritative parenting also doesn't moderate the relationship between cognitive disengagement syndrome and psychosocial functioning of children with autistic symptoms.

**Table 4.14**

*Moderating effect of Uninvolved Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms (N=180)*

| Predictor             | <i>B</i> | <i>SE</i> | <i>t</i> | <i>p</i> | 95% CI    |           |
|-----------------------|----------|-----------|----------|----------|-----------|-----------|
|                       |          |           |          |          | <i>LL</i> | <i>UL</i> |
| Constant              | 37.28    | 13.86     | 2.68     | .007     | 9.92      | 64.64     |
| CDS                   | .86      | .40       | 2.17     | .03      | .07       | 1.65      |
| UN_INV                | .44      | .75       | .59      | .55      | -1.04     | 1.93      |
| CDS x UN_INV          | -.010    | .02       | -.51     | .60      | -.05      | .03       |
| <i>R</i> <sup>2</sup> | .36      |           |          |          |           |           |
| $\Delta R^2$          | .001     |           |          |          |           |           |
| <i>F</i>              | 34.31    |           |          | .00      |           |           |

Note: CDS= Cognitive Disengagement Syndrome, UN\_INV= Uninvolved

Table 4.14 exhibits moderation analysis with uninvolved parenting style. As per findings, the interaction between cognitive disengagement syndrome and uninvolved parenting style is not significant hence uninvolved parenting also doesn't moderate the relationship between cognitive disengagement syndrome and psychosocial functioning of children with autistic symptoms.

Moderation analyses were also computed to check the interaction effect of parenting styles in relationship between cognitive disengagement syndrome and psychosocial functioning of autistic children on sample of mothers and fathers separately. But no significant results were observed on separate domains of fathers' parenting (authoritarian, authoritative, permissive and uninvolved) styles. However, for mothers only the authoritarian parenting style showed significant moderation and exacerbated the effect of cognitive disengagement syndrome on psychosocial functioning of children with autistic symptoms ( $p < .05$ ) which is give below.

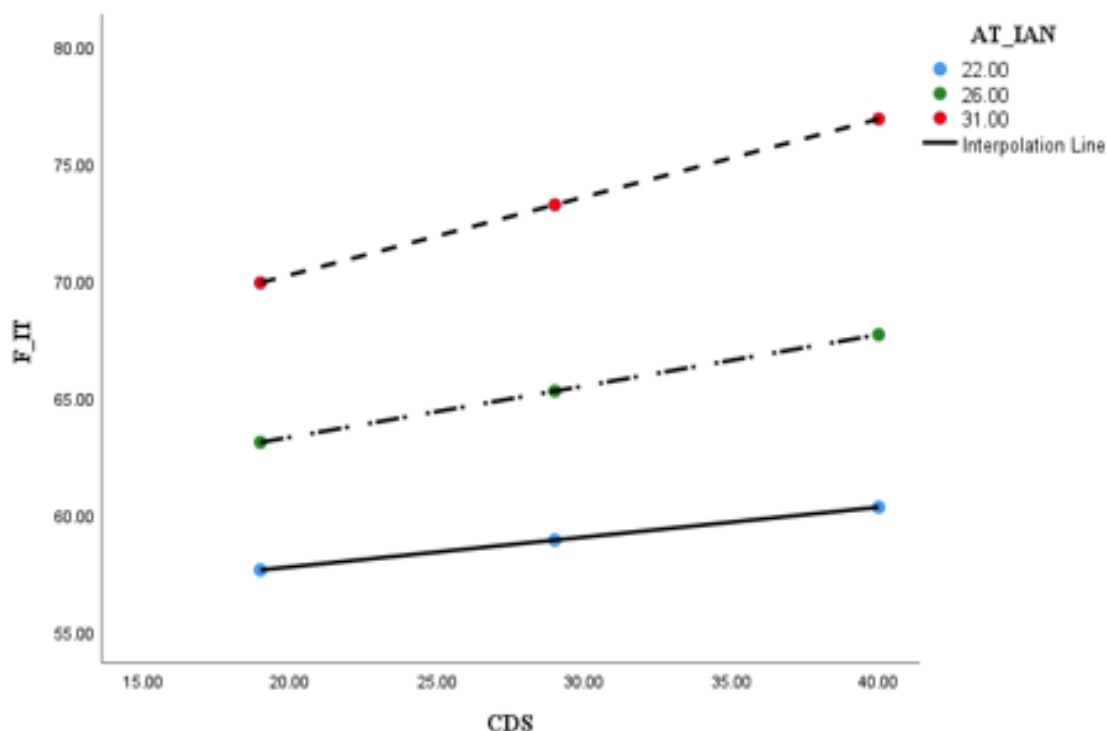
**Table 4.15**

*Moderating effect of Mother Authoritarian Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms (N= 180)*

| Predictor             | <i>B</i> | <i>SE</i> | <i>t</i> | <i>p</i> | 95% CI    |           |
|-----------------------|----------|-----------|----------|----------|-----------|-----------|
|                       |          |           |          |          | <i>LL</i> | <i>UL</i> |
| Constant              | 34.67    | 9.46      | 3.66     | .00      | 15.91     | 53.43     |
| CDS                   | -.37     | .33       | -1.12    | .26      | -1.03     | .28       |
| AT_IAN                | .93      | .34       | 2.71     | .00      | .25       | 1.61      |
| CDS x AT_IAN          | .02      | .01       | 2.14     | .03      | .001      | .04       |
| <i>R</i> <sup>2</sup> | .62      |           |          |          |           |           |
| $\Delta R^2$          | .016     |           |          |          |           |           |
| <i>F</i>              | 58.32    |           |          | .00      |           |           |

Note: CDS= Cognitive Disengagement Syndrome, AT\_IAN = Authoritarian

### Moderating effect of Mother Authoritarian Parenting Style



*Figure 4.1* Moderating effect of Mother Authoritarian Parenting Style in the Relationship between Cognitive Disengagement Syndrome and Psychosocial Functioning of Children with Autistic Symptoms

Table 4.15 exhibits moderation analysis with mother authoritarian parenting style. As per findings, the interaction between cognitive disengagement syndrome and the mother's authoritarian parenting style is significant ( $p < .05$ ). These findings are also illustrated by the graphical presentation of the results suggesting that the mother's more disciplinary and controlling behavior intensify the impact of cognitive disengagement syndrome on the psychosocial functioning of children with autistic symptoms.

## **CHAPTER V**

### **SUMMARY, DISCUSSION, CONCLUSION AND RECCOMENDATIONS**

#### **5.1 Summary**

The current study was conducted to explore how cognitive disengagement syndrome effects the way parents raise their children with autistic symptoms? For this purpose, the focus was on evaluating the relationship between cognitive disengagement syndrome and psychosocial impairments i.e., family, learning, behavior, life skills, child self-concept, social activities and risky activities, and different parenting styles i.e., authoritarian, authoritative, permissive and uninvolved. Additionally, another objective of the study was to find out parenting styles as a moderator in the relation between cognitive disengagement syndrome and psychosocial impairments of children with autistic symptoms. The present study examined the variables across gender and age groups including middle childhood aged 6 to 9, and late childhood aged 10 to 14 years, with other demographic variables. Meanwhile, in the present study to obtain the scores on each variable a demographic form was provided to the participants along with the four scales i.e., Cognitive Disengagement Syndrome-Parent Report, Weiss Functional Impairment Rating Scale-Parent Report, Autism Spectrum Screening Questionnaire and Parenting Style-Four Factor Questionnaire. The scores of all measures were analyzed using means and standard deviations. Descriptive statistics, such as mean were computed for each study variable and continuous variables (e.g., age), while frequencies and percentages were calculated for categorical variables, including gender and family system.

#### **5.2 Discussion**

To explore the relation between cognitive disengagement syndrome and psychosocial functioning, and moderating role of parenting styles with its relation between cognitive

disengagement syndrome and psychosocial functioning among children with autistic symptoms various hypotheses were generated.

The present study intended to explore the link between cognitive disengagement syndrome and psychosocial functioning. For this purpose, it was hypothesized that, there is a negative relationship between cognitive disengagement syndrome and psychosocial functioning among children with autistic symptoms. However, the expectations were not in favor of hypothesis 1. Correlation and simple linear regression analysis were done to test this assumption and the findings of these analysis suggest that cognitive disengagement syndrome correlated significantly with psychosocial impairments i.e. family, school-learning, school-behavior, life skills, child self-concept, social activities and risky activities and it also positively predict psychosocial impairments.

The literature from existing researches has indicated a connection between cognitive disengagement syndrome and psychosocial impairments. A thorough meta-analysis revealed a link of cognitive disengagement syndrome with a number significant functional impairments including rate of overall impairment, social disengagement and isolation, academic difficulty and sleep disturbance, poor quality of life, increased deficits in everyday executive functioning or emotional dysregulation (Creque & Willcutt, 2021; Fredrick et al., 2022; Taylor et al., 2020). Based on the significant association with many psychopathologies and functional outcomes, prior studies provide clear evidence that the key psychosocial factors related with cognitive disengagement syndrome specifically due to withdrawal, isolation and low initiative in social situations (Fredrick & Becker, 2023; Reinvall et al., 2017).

To investigate the relationship between cognitive disengagement syndrome and parenting styles it was hypothesized that, cognitive disengagement syndrome is positively relate with



authoritarian, permissive and uninvolved parenting styles. The present study supported the assumption of hypothesis 2. The correlational analysis was done for this purpose which shows highly significant correlation. The hypothesis 3 were generated shows cognitive disengagement syndrome is negatively related with authoritative parenting style. The present study was not in favor of this assumption, cognitive disengagement syndrome doesn't show significant relation with authoritative style. Further researches are needed to investigate the relationship between cognitive disengagement syndrome and authoritative parenting with a large sample size to enhance the generalizability of the findings.

Regarding parenting styles, existing literature has identified the parenting styles in relation with child psychosocial development and considered as a significant factor in psychosocial development of children and adolescent. A considerable evidence suggested that parents must be trained to modify their behaviors and to understand them that these changes are significantly related to their child development. A study found that parent cares and have great expectations for their child despite belongs to any background. The difference forms in a way how parents interact with their child. The parenting styles which parents used definitely impact on child psychosocial functioning and are triggered by negative and positive experiences in the relationship (Jadon & Tripathi, 2017; Rezai & Rahimi, 2013).

To determine the relation between parenting style and child psychosocial functioning, it was hypothesized that, psychosocial functioning is negatively related with authoritarian, permissive and uninvolved parenting styles. The expectations of hypothesis 4 was supported. Correlation and regression analysis was done to determine the relation and result show the significant positive correlation of psychosocial impairments with authoritarian and permissive parenting styles while, uninvolved parenting style show no significant relation. Also, results from

regression analysis revealed that authoritarian and permissive parenting styles positively predicts psychosocial impairments.

Child social interactions are greatly influenced by the strength of relationship between children and their parents, especially in early years (Bibi, Chaudhry, Awan, & Tariq, 2013). The authoritarian style emphasizes strict control and obedience limits child's autonomy and emotional support. This style is related to child negative emotional and behavioral issues such as hostility, resistance to authority, depression, lack of self-worth and difficulties in decision-making in adult life. These parents are often unresponsive to child's developmental needs, lack of emotional support and prefer punishment over guidance tend to causes a long term psychological harm leading to feelings of instability and insecurity in the future. Moreover, it could impact the child mental health from a young age. As a result, children of authoritarian parents could be more susceptible to mental health issues in later life. Probably because of this style, children exhibit poor mental health. The permissive style involves low demands, limited parental control and minimal discipline. Children of permissive parents often exhibits antisocial behavior, poorer academic progress, and overall lower levels of psychosocial development. They tend to have lack of social skills and are often selfish, dependent or irresponsible. Uninvolved parenting style is marked by minimal attention and guidance results in worst outcomes on behavioral and psychological measures. Generally, associated with unfavorable child psychosocial outcomes such as depression, smoking and poor school progress. Furthermore, children of uninvolved parents tend to have low level of cognitive and emotional empathy development which is considered to be significantly crucial with regard to positive social development (Fayed et al., 2023; Mahapatra & Batul, 2016; Niaraki et al., 2013).

The other hypothesis generated that psychosocial functioning is positively related with authoritative parenting style and hypothesis 5 was not supported in the present study. The correlation analysis shows non-significant results of psychosocial impairments with authoritative style. Regression analysis shows significant negative correlation of authoritative parenting style with psychosocial impairments, indicates a negative predictor of psychosocial impairments. Some existing studies in literature found no significant correlation between authoritative parenting style and psychosocial functioning due to socioeconomic and cultural contextual factors. As in Asian cultures obedience and family roles are emphasized, hence authoritative parenting style may not significantly enhance self-esteem or better psychosocial outcomes like emotional regulation compared to Western context. Additionally, in low economic households and high stress environments, the supportive role of authoritative parenting style may be affected due to external challenges like low socioeconomic settings, and also leading its impact on academic and behavioural outcomes (Bornstein, 2013; Franceschelli & Brien, 2014; Zaman, 2013).

As the present study was interested to investigate the role of parenting styles in relation with cognitive disengagement syndrome and psychosocial functioning among children with autistic symptoms. For this purpose, following hypotheses were generated. Hypothesis 6, authoritarian, permissive and uninvolved parenting styles exacerbate the impact of cognitive disengagement syndrome on psychosocial functioning among children with autistic symptoms. Hypothesis 7, authoritative parenting style buffer the impact of cognitive disengagement syndrome on psychosocial functioning among children with autistic symptoms. To test this assumption, moderation analysis was done. The hypothesis 6 was partially accepted while hypothesis 7 was not supported in the present study. According to some existing literature studies, not only fathers but also mothers of children with autism may adopt an authoritarian parenting style not by choice

but as a response while experiencing their child's challenging behaviors such as rigidity, self-injury and aggression. Furthermore, the constant demands of caregiving and worries can be overwhelming, leading to greater parenting stress which results in more controlling behavior towards their child when managing difficult situations. While the other studies suggest that mothers who adopt an authoritative style, are more warmth and supportive towards their child, which helps in managing difficult behaviors, reduces stress and also make the child feel more secure (Chen et al., 2000; Gau et al., 2012). Meanwhile, from the overall findings of moderation analyses it conclude that, parenting styles (authoritarian, permissive, authoritative and uninvolved) have not shown a moderating effect in relation between cognitive disengagement syndrome and psychosocial functioning among children with autistic symptoms.

The following possibilities for these results might be consider, one of the possibility for that, cognitive disengagement syndrome is an attentional problem involves the disengagement or decoupling of attention, individuals face challenges in thought processes, conceptual confusion and cognitive inconsistencies (Barkley et al., 2022; Kacmaz et al., 2024). While, parenting style refers to a set of psychological, behavioral aspects, the attitudes and behaviors that parents use most often to handle their child behavior which is determined by the patterns of control, responsiveness, warmth, and punishment (Abusalih, Tan, & Cruz, 2023; Sahithya, Manohari, & Vijaya, 2019).

Therefore, to investigate parenting style as a moderator in relation with cognitive disengagement syndrome, it would be worth to consider neurocognitive issues like attention/concentration, slow processing speed, working memory linked to cognitive disengagement syndrome (Bolat et al., 2020; Smith & Suhr, 2021). Further, may be only parenting styles might not have a strong enough impact to alter cognitive disengagement syndrome and

psychosocial functioning link. Other factors like personality characteristics (behavior, attitudes and temperaments), peer influence and family settings (positive or negative household settings) might be cause any effect. The other possibility for that, maybe parents have shown biasness in responding to the items. Also, maybe parenting practices instead of parenting styles could be potential moderating factor by showing specific actions that directly compensate for a child's deficits. For instance, when parents set clear routines, supportive and positively reinforced their child like praise and rewards, children can stay more focused, persistent and socially skilled. Conversely, harsh or inconsistent practices could worsen disengagement which leads to greater social and emotional difficulties.

### **5.2.1 Effects of Demographics on the Study Variables**

The study aimed to investigate differences in the study variables based on gender and other demographic factors. Also, the study revealed innovative information on how such variables vary across different groups.

On gender demographic variable indicate that boys score significantly higher in cognitive disengagement syndrome symptoms and psychosocial impairments as compared to girls in the present study. The studies from literature provides insight whether it is more prevalent in boys or girls, demonstrate that boy were more slightly to exhibit cognitive disengagement syndrome symptoms because they were more likely evaluated for attention problems due to overlapping attention deficit hyperactive symptoms (Barkley, 2014; Becker et al., 2016). While parents scored on authoritarian and permissive style on gender demographic variable and prefer these styles for boys. Such finding supports prior literature suggest that, in Asian culture, boys were thought to follow their fathers, because father serves as authoritative figures and disciplinary roles (Mahmood, 2009), and fathers are more likely to use authoritarian style with boys, particularly in

cultures emphasizing male dominance. Regarding permissive parenting style, studies suggest that mothers are likely more permissive towards boys allowing more freedom and lenient behaviors (Ilyas & Khan, 2023).

In terms of age groups from 6 to 9 and 10 to 14, the results show significant differences on cognitive disengagement syndrome and psychosocial impairments (behavior, life skills and social activities) with higher scores observed in children aged 6-9 years. According to literature findings, the symptoms were more consistently observed in late childhood aged 9 to 12 and early adolescence due to higher academic and social impairments like social withdrawal and peer difficulties, compared to younger children. While some studies suggest that cognitive disengagement syndrome symptoms emerge in early childhood and become more clinically significant in late childhood (9 to 12), because of increasing demands on attention and executive functioning (Barkley, 2014; Becker et al., 2016; Willcutt et al., 2014).

Based on relationship status of parents with their child on variables under investigation. The findings revealed no significant difference between father and mother relation on cognitive disengagement syndrome and psychosocial impairments among children with autistic symptoms. According to some studies in the literature, findings highlight that psychosocial difficulties are more strongly influenced by children's own characteristics such as temperament, attention regulation, executive functioning, and emotional skills. Also, influenced by environmental factors including school environment, peer relationships, and learning problems rather than whether the report comes from a mother or a father. Further, symptoms of cognitive disengagement syndrome (like daydreaming, mental confusion and inattention) are internally rooted in cognitive processes, so they are less influenced by parental role differences. Meanwhile, some prior studies in child psychology have suggested that parental gender differences in reporting are usually minimal when

a child's problems are understandable and consistent e.g., attention deficit hyperactivity disorder, cognitive disengagement syndrome and learning impairments. Instead, differences in outcomes are more strongly linked with socioeconomic status, family environment and school support rather than whether the father or mother is reporting (Becker et al., 2016; Martel, Von & Nigg, 2012).

However, parents report higher score on authoritative and authoritarian parenting styles and mother show statistically significant difference on both measures authoritative and authoritarian styles as compared to fathers. The findings support in terms of prior studies highlight that not just fathers but also mothers adopt authoritarian parenting styles towards their children. Some studies suggest that mothers, particularly in high-stress or traditional environments may adopt an authoritarian style due to low socio-economic households and higher stress level (Chen et al., 2000). Other studies found that parenting stress in mothers of children with autism spectrum disorder influenced their parenting styles, sometimes leading to more controlling behaviors due to challenges of managing behavioral issues and communication difficulties. In contrast, mothers who balance structural environment leads to better outcomes in autistic children like improved social skills and emotional regulation (Osborne & Reed, 2010). While according to meta-analyses, in Asian collectivist cultures including China, mothers are more likely to adopt authoritarian parenting style often linked to higher academic pressure and social conformity. Also, in Chinese-American Western framework, mothers often used training referred to 'guan', blend of authoritarian and authoritative parenting styles emphasizing strict control but with emotional involvement (Pinquart & kauser, 2018).

No significant differences were observed on family system in the present study across the study variables through the independent sample t-test, revealed that family system (nuclear or

Joint) does not influence the challenges that autistic children may face due to cognitive disengagement syndrome and psychosocial impairments. A study found that parental stress and family adaptability were stronger predictors of behavioral outcomes in autistic children rather than family structure, suggest that emotional support and family cohesion play more significant role than whether the family is nuclear or joint (Ericzen, Frazee, & Stahmer, 2005). While based on any one else in family affected by diseases across the study variables, some participants in the current study reveals that they have a family member who is affected by a disease face psychosocial impairments i.e., family, behavior and social activities, it means they experiences emotional, behavioral and social challenges. A study has been found that siblings of children with autism spectrum disorder are at higher risk of developing social impairments and behavioral issues. Some researchers have explore genetic vulnerabilities and environmental factors that may contribute to certain siblings at a greater risk of psychological maladjustment (Mohammadi & Zarafshan, 2014).

Also, analysis of variance (ANOVA) were computed on demographics based on mother and father education level and on their working status. However, non-significant results were observed across all measures. Several possible explanations may be considered for such findings e.g., may be the small sample size in the present study reduces the strength of statistical analysis to detect potential effects. One of the possibility for that, if most participants had a similar education levels like FA, MA and Higher degree, and similar employment status such as all employed, most of them have government or private jobs, ANOVA lacks variance to detect differences.

### **5.3 Conclusion**

The present study emphasized on the relationship between cognitive disengagement syndrome, psychosocial functioning, and different parenting styles (authoritarian, authoritative,



permissive and uninvolved) among children with autistic symptoms. Findings revealed that cognitive disengagement syndrome positively correlated with psychosocial impairments i.e., family, learning, behavior, life skills, child self-concept, social activities and risky activities and parenting styles (authoritarian, permissive and uninvolved). Regression analysis revealed that cognitive disengagement syndrome, along with authoritarian or permissive parenting styles, positively predict psychosocial impairments. This suggest that autistic children with cognitive disengagement syndrome and with authoritarian and permissive parenting styles may experience more psychosocial impairments.

Furthermore, moderation analysis revealed that parenting styles (authoritarian, authoritative, permissive, and uninvolved) did not significantly influence the relationship between cognitive disengagement syndrome and psychosocial impairments among children with autistic symptoms. The results revealed that even though parenting styles may relate to cognitive disengagement syndrome and psychosocial impairments, they do not influence how cognitive disengagement syndrome affects psychosocial functioning. This means that the impact of cognitive disengagement syndrome on child's psychosocial functioning with autistic symptoms relatively independently of parenting styles, whether parents raise their children with strict, warmth or balanced patterns. However, separate moderation analyses also computed for maternal and paternal parenting styles revealed non-significant interaction except for maternal authoritarian parenting style which exacerbated the impact of cognitive disengagement syndrome on psychosocial functioning of autistic children. Moreover, it was determined in the present study that boys exhibit higher degree of cognitive disengagement syndrome symptoms and psychosocial impairments than girls.

## 5.4 Limitations and Suggestions

The present study has identified the following limitations:

- The major limitation of the study is reliance of data on parent-report questionnaires, which may have introduced response bias and social desirability, particularly for parenting style questionnaire. Future studies could incorporate experimental, observational methods or multi-informant reports such as teacher ratings to reduce biasness.
- The current study did not include other important factors i.e. personality traits, child temperament, and parental coping strategies etc. which could have resulted in a more precise and comprehensive understanding of the problem. Particularly parenting practices instead of parenting styles could be potential moderating factor which the future researcher may investigate.
- The present study was conducted in twin cities (Islamabad and Rawalpindi) recruited from different autism centers. The future studies should focus on a larger and dynamic sample from multiple cities to enhance the generalizability of their findings.
- Although cross sectional design was used considering its appropriateness for the study but longitudinal designs may be followed by the future researchers to understand the trajectories of parental practices which may affect differently or change over time owing to parental stress, and other related factors.

## 5.5 Future Implications of the Present Study

The present study provides useful implications on both theoretical and practical perspectives. On theoretical perspective, the present study provides a theoretically consistent view of cognitive disengagement syndrome and psychosocial functioning in accordance with Biopsychosocial model conceptualized by George Engel (1977). It conceptually clarifies whether

cognitive disengagement syndrome is a distinct construct but correlates with psychosocial functioning of autistic children, suggest that it may be possible to influence psychosocial outcomes like emotional and behavioral regulation, social skills and adaptive functioning. Moreover, the present study establishes a theoretical baseline for future studies on how different parenting styles (authoritarian, authoritative, permissive and uninvolved) could impact cognitive disengagement syndrome and improves psychosocial outcomes in children with other neurodevelopmental difficulties.

On practical perspective, the study highlights the importance of raising awareness among parents through clinical guidance, helping them to understand how their style of interaction affects child's mental health and social development. It also highlights the need for policies that recognize the cognitive disengagement syndrome as a unique challenge among children with autistic symptoms, ensuring they receive effective clinical and emotional support. Furthermore, clinicians can enhance assessment and intervention strategies by addressing challenges of cognitive disengagement syndrome faced by autistic children and the influence of family dynamics, particularly parenting styles.

## References

- Abusalih, A. F., Tan, E., & de Cruz, N. (2023). Associations between parental conflict and externalising behaviours in children with ASD in a local Singaporean sample: Parenting style as a moderating mechanism. *European journal of teaching and education (Online)*, 5(2), 13-35.
- Asghar, B., Asghar, F., Riaz, E., Iqbal, Z., Fatima, S. M., & Fatima, H. (2023). The rise in autism spectrum disease: is the Pakistani population aware of the symptoms? (Vol. 6, pp. e0247): LWW.
- Antony, E. (2022). Framing childhood resilience through Bronfenbrenner's ecological systems theory: A discussion paper. *Cambridge Educational Research E-Journal (CERJ)*, 9.
- Baker-Ericzén, M. J., Brookman-Frazee, L., & Stahmer, A. (2005). Stress levels and adaptability in parents of toddlers with and without autism spectrum disorders. *Research and practice for persons with severe disabilities*, 30(4), 194-204.
- Becker, S. P. (2013). Topical review: Sluggish cognitive tempo: Research findings and relevance for pediatric psychology. *Journal of pediatric psychology*, 38(10), 1051-1057.
- Barkley, R. A. (2014). Sluggish cognitive tempo (concentration deficit disorder?): Current status, future directions, and a plea to change the name. *Journal of abnormal child psychology*, 42, 117-125.
- Becker, S. P., Epstein, J. N., Burns, G. L., Mossing, K. W., Schmitt, A. P., Fershtman, C. E., . . . Simon, J. O. (2022). Academic functioning in children with and without sluggish cognitive tempo. *Journal of school psychology*, 95, 105-120.
- Becker, S. P., & Barkley, R. A. (2018). Sluggish cognitive tempo. *Oxford textbook of attention deficit hyperactivity disorder*, 147-153.

- Becker, S. P., Schmitt, A. P., Jarrett, M. A., Luebbe, A. M., Garner, A. A., Epstein, J. N., & Burns, G. L. (2018). Sluggish cognitive tempo and personality: Links to BIS/BAS sensitivity and the five factor model. *Journal of Research in Personality*, 75, 103-112.
- Becker, S. P., Garner, A. A., Tamm, L., Antonini, T. N., & Epstein, J. N. (2019). Honing in on the social difficulties associated with sluggish cognitive tempo in children: Withdrawal, peer ignoring, and low engagement. *Journal of Clinical Child & Adolescent Psychology*, 48(2), 228-237.
- Becker, S. P., Garner, A. A., & Byars, K. C. (2016). Sluggish cognitive tempo in children referred to a pediatric Sleep Disorders Center: Examining possible overlap with sleep problems and associations with impairment. *Journal of psychiatric research*, 77, 116-124
- Becker, S. P., Willcutt, E. G., Leopold, D. R., Fredrick, J. W., Smith, Z. R., Jacobson, L. A., . . . Froehlich, T. E. (2023). Report of a work group on sluggish cognitive tempo: Key research directions and a consensus change in terminology to cognitive disengagement syndrome. *Journal of the American Academy of Child & Adolescent Psychiatry*, 62(6), 629-645.
- Becker, S. P., Luebbe, A. M., Fite, P. J., Stoppelbein, L., & Greening, L. (2014). Sluggish cognitive tempo in psychiatrically hospitalized children: Factor structure and relations to internalizing symptoms, social problems, and observed behavioral dysregulation. *Journal of abnormal child psychology*, 42, 49-62.
- Becker, S. P., Burns, G. L., Smith, Z. R., & Langberg, J. M. (2020). Sluggish cognitive tempo in adolescents with and without ADHD: Differentiation from adolescent-reported ADHD inattention and unique associations with internalizing domains. *Journal of abnormal child psychology*, 48, 391-406.

- Brewe, A. M., Simmons, G. L., Capriola-Hall, N. N., & White, S. W. (2020). Sluggish cognitive tempo: An examination of clinical correlates for adults with autism. *Autism*, 24(6), 1373-1383.
- Betts, L. R., Trueman, M., Chiverton, L., Stanbridge, A., & Stephens, J. (2013). Parental rearing style as a predictor of attachment and psychosocial adjustment during young adulthood. *Journal of Social and Personal Relationships*, 30(6), 675-693.
- Bibi, F., Chaudhry, A. G., Awan, E. A., & Tariq, B. (2013). Contribution of Parenting Style in life domain of Children. *IOSR Journal of humanities and social science (IOSR-JHSS)*, 12(2), 91-95.
- Bi, X., Yang, Y., Li, H., Wang, M., Zhang, W., & Deater-Deckard, K. (2018). Parenting styles and parent–adolescent relationships: The mediating roles of behavioral autonomy and parental authority. *Frontiers in psychology*, 9, 2187.
- Bornstein, M. H. (2013). Approaches to parenting in culture *Cultural approaches to parenting* (pp. 3-19): Psychology Press.
- Bourgeois, S. J., & Boberg, J. E. (2016). High-achieving, cognitively disengaged middle level mathematics students: A self-determination theory perspective. *Rmle Online*, 39(9), 1-18.
- Butt, M. M., Ijaz, R., Yahya, F., & Hania, A. (2014). The causation between father's authoritarianism and test anxiety: An empirical study among adolescents. *Sci. Int (Lahore)*, 26(1), 373-383.
- Burns, G. L., Becker, S. P., Montaña, J. J., & Servera, M. (2024). Clinical distinction between cognitive disengagement syndrome and ADHD presentations in a nationally representative sample of Spanish children and adolescents. *Journal of Child Psychology and Psychiatry*, 65(12), 1601-1611.

- Burns, G. L., Montaña, J. J., Becker, S. P., & Servera, M. (2023). Cognitive disengagement syndrome symptoms from early childhood to adolescence in a nationally representative Spanish sample. *Journal of Clinical Child & Adolescent Psychology*, 1-15.
- Bunford, N., Evans, S. W., & Langberg, J. M. (2018). Emotion dysregulation is associated with social impairment among young adolescents with ADHD. *Journal of Attention Disorders*, 22(1), 66-82.
- Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thøgersen-Ntoumani, C. (2011). Self-determination theory and diminished functioning: The role of interpersonal control and psychological need thwarting. *Personality and social psychology bulletin*, 37(11), 1459-1473.
- Cano-Crespo, A., Moreno-García, I., Servera, M., & Morales-Ortiz, M. (2023). *Cognitive Disengagement Syndrome and Child Sleep Problems in ADHD, Anxiety and Depression*. Paper presented at the Healthcare.
- Cano-Crespo, A., Moreno-García, I., Servera, M., & Morales-Ortiz, M. (2024). Multi-informant assessment of Cognitive Disengagement Syndrome (formerly Sluggish Cognitive Tempo). Self-reported measures of children in relation to parents. *Anales de Psicología*, 40(2), 227.
- Cano-Crespo, A., Moreno-García, I., Servera, M., & Morales-Ortiz, M. (2024). Emotional Regulation Problems in Cognitive Disengagement Syndrome (formerly Sluggish Cognitive Tempo), Attention Deficit and Hyperactivity Disorder, Anxiety and Depression. *The Spanish Journal of Psychology*, 27, e20.

- Chen, X., Liu, M., Li, B., Cen, G., Chen, H., & Wang, L. (2000). Maternal authoritative and authoritarian attitudes and mother-child interactions and relationships in urban China. *International Journal of Behavioral Development*, 24(1), 119-126.
- Cooper, K., Smith, L. G., & Russell, A. (2017). Social identity, self-esteem, and mental health in autism. *European Journal of Social Psychology*, 47(7), 844-854.
- Collado-Valero, J., Navarro-Soria, I., Delgado-Domenech, B., Real-Fernández, M., Costa-López, B., Mazón-Esquiva, I., & Lavigne-Cerván, R. (2021). ADHD and sluggish cognitive tempo: comparing executive functioning response patterns. *Sustainability*, 13(19), 10506..
- Carpenter, K. L., Davis, N. O., Spanos, M., Sabatos-DeVito, M., Aiello, R., Compton, S. N., ..Dawson, G. (2024). Cognitive Disengagement Syndrome in Young Autistic Children, Children with ADHD, and Autistic Children with ADHD. *Journal of Clinical Child & Adolescent Psychology*, 1-12.
- Clauser, P., Ding, Y., Chen, E. C., Cho, S.-J., Wang, C., & Hwang, J. (2021). Parenting styles, parenting stress, and behavioral outcomes in children with autism. *School Psychology International*, 42(1), 33-56.
- Creque, C. A., & Willcutt, E. G. (2021). Sluggish cognitive tempo and neuropsychological functioning. *Research on Child and Adolescent Psychopathology*, 49(8), 1001-1013.
- Chen, F., Garcia, O. F., Alcaide, M., Garcia-Ros, R., & Garcia, F. (2024). Do we know enough about negative parenting? Recent evidence on parenting styles and child maladjustment. *European Journal of Psychology Applied to Legal Context*, 16(1), 37-48.
- Crowell, J. A., Keluskar, J., & Gorecki, A. (2019). Parenting behavior and the development of children with autism spectrum disorder. *Comprehensive psychiatry*, 90, 21-29.



- Coury, D. L., Murray, D. S., Fedele, A., Hess, T., Kelly, A., & Kuhlthau, K. A. (2020). The autism treatment network: bringing best practices to all children with autism. *Pediatrics*, 145(Supplement\_1), S13-S19.
- Cobos, M. E., Peterson, A. T., Barve, N., & Osorio-Olvera, L. (2019). kuenm: an R package for detailed development of ecological niche models using Maxent. *PeerJ*, 7, e6281.
- Courtney, E., & Ackermann, M. (2018). Self-determination theory and how it explains motivation. *Self Determination Theory and How It Explains Motivation (positivepsychology. com)*.
- Crawford, M. (2020). Ecological Systems theory: Exploring the development of the theoretical framework as conceived by Bronfenbrenner. *J Pub Health Issue Pract*, 4(2), 170.
- De Los Reyes, A., Cook, C. R., Gresham, F. M., Makol, B. A., & Wang, M. (2019). Informant discrepancies in assessments of psychosocial functioning in school-based services and research: Review and directions for future research. *Journal of school psychology*, 74, 74-89.
- De Clercq, L., Van der Kaap-Deeder, J., Dieleman, L. M., Soenens, B., Prinzie, P., & De Pauw, S. S. (2019). Parenting and psychosocial development in youth with and without autism spectrum disorder, cerebral palsy, and Down syndrome: A cross-disability comparison. *Advances in Neurodevelopmental Disorders*, 3, 220-234.
- De Francesco, S., Amico, C., De Giuli, G., Giani, L., Fagnani, C., Medda, E., & Scaini, S. (2024). Exploring the comorbidity between internalizing/externalizing dimensions and cognitive disengagement syndrome through twin studies: a narrative review.
- De France, K., & Hollenstein, T. (2022). Emotion regulation strategy use and success during adolescence: Assessing the role of context. *Journal of Research on Adolescence*, 32(2), 720-736.

- Duncan, A., Tamm, L., Birnschein, A. M., & Becker, S. P. (2019). Clinical correlates of sluggish cognitive tempo in adolescents with autism spectrum disorder. *Autism*, 23(6), 1354-1362.
- Ehteshami, S., Araghi, N. M., & Pashmdarfard, M. (2023). Psychometric properties of Autism Spectrum Disorders Screening Assessment Tools: Systematic Review. *Medical Journal of the Islamic Republic of Iran*, 37.
- Enea, V., & Rusu, D. (2020). Raising a child with autism spectrum disorder: A systematic review of the literature investigating parenting stress. *Journal of Mental Health Research in Intellectual Disabilities*, 13(4), 283-321.
- El Zaatari, W., & Maalouf, I. (2022). How the Bronfenbrenner bio-ecological system theory explains the development of students' sense of belonging to school? *SAGE Open*, 12(4), 21582440221134089.
- Fayed, M. M. T., Elkazeh, E. A. E. E., Soliman, F. E.-S., & Elbially, A. A. (2023). Relation between parenting style of primary school age children and their psychosocial behaviors. *Tanta scientific nursing journal*, 31(4), 305-324.
- Furrukh, J., & Anjum, G. (2020). Coping with autism spectrum disorder (ASD) in Pakistan: A phenomenology of mothers who have children with ASD. *Cogent psychology*, 7(1), 1728108.
- Fatima, S., Sheikh, H., & Ardila, A. (2016). Association of parent–child relationships and executive functioning in South Asian adolescents. *Neuropsychology*, 30(1), 65.
- Ferguson, K. T., Cassells, R. C., MacAllister, J. W., & Evans, G. W. (2013). The physical environment and child development: An international review. *International Journal of Psychology*, 48(4), 437-468.

- Fein, D., Barton, M., Eigsti, I. M., Kelley, E., Naigles, L., Schultz, R. T., . . . Rosenthal, M. (2013). Optimal outcome in individuals with a history of autism. *Journal of Child Psychology and Psychiatry*, 54(2), 195-205.
- Fortez, A. L. S., Gonzales, S. K. T., Ishinabe, M. C., Rangel, E. J., & Razo, E. S. A Systematic Review: Impact of Parenting Styles on the Behavioral Outcomes Amongst Children with Autism Spectrum Disorder.
- Flannery, A. J., Becker, S. P., & Luebke, A. M. (2016). Does emotion dysregulation mediate the association between sluggish cognitive tempo and college students' social impairment? *Journal of Attention Disorders*, 20(9), 802-812.
- Fredrick, J. W., Becker, S. P., & Langberg, J. M. (2022). Low school support exacerbates the association between peer difficulties and sluggish cognitive tempo in adolescents. *Journal of Clinical Child & Adolescent Psychology*, 51(6), 1024-1038.
- Fredrick, J. W., & Becker, S. P. (2023). Sluggish cognitive tempo (cognitive disengagement syndrome) and academic functioning: A systematic review and agenda for future research. *Clinical Child and Family Psychology Review*, 26(1), 82-120.
- Fredrick, J. W., Yeaman, K. M., Yu, X., Langberg, J. M., & Becker, S. P. (2022). A multi-method examination of sluggish cognitive tempo in relation to adolescent sleep, daytime sleepiness, and circadian preference. *Journal of Child Psychology and Psychiatry*, 63(12), 1658-1667.
- Fredrick, J. W., Jacobson, L. A., Peterson, R. K., & Becker, S. P. (2024). Cognitive disengagement syndrome (sluggish cognitive tempo) and medical conditions: A systematic review and call for future research. *Child Neuropsychology*, 30(5), 783-817.

- Fuentes, M. C., Garcia, O. F., Alcaide, M., Garcia-Ros, R., & Garcia, F. (2022). Analyzing when parental warmth but without parental strictness leads to more adolescent empathy and self-concept: evidence from Spanish homes. *Frontiers in Psychology, 13*, 1060821.
- Gaspar, T., Gomez-Baya, D., Trindade, J. S., Botelho Guedes, F., Cerqueira, A., & de Matos, M. G. (2022). Relationship between family functioning, parents' psychosocial factors, and children's well-being. *Journal of Family Issues, 43*(9), 2380-2397.
- Greenlee, J. L., Winter, M. A., & Diehl, J. J. (2018). Family level processes associated with outcomes for individuals with autism spectrum disorder: A scoping review. *Research in autism spectrum disorders, 53*, 41-52.
- Gatchel, R. J., Ray, C. T., Kishino, N., & Brindle, A. (2020). The biopsychosocial model. *The Wiley encyclopedia of health psychology*, 1-8.
- García Buelga, Ó. F., Fuentes Durán, M. d. C., Gracia, E., Serra Desfilis, E., & García Pérez, J. F. (2020). Parenting warmth and strictness across three generations: Parenting styles and psychosocial adjustment. *International Journal of environmental research and public health, 17*(20), 7487. (1989)
- Gajria, K., Kosinski, M., Sikirica, V., Huss, M., Livote, E., Reilly, K., . . . Erder, M. H. (2015). Psychometric validation of the Weiss Functional Impairment Rating Scale-Parent Report Form in children and adolescents with attention-deficit/hyperactivity disorder. *Health and Quality of Life Outcomes, 13*, 1-11.
- Hassan, M., Malik, A. S., Sang, G., Rizwan, M., Mushtaque, I., & Naveed, S. (2022). Examine the parenting style effect on the academic achievement orientation of secondary school students: The moderating role of digital literacy. *Frontiers in Psychology, 13*, 1063682.

- Hyman, S. L., Levy, S. E., Myers, S. M., Kuo, D. Z., Apkon, S., Davidson, L. F., . . . Leppert, M. O. C. (2020). Identification, evaluation, and management of children with autism spectrum disorder. *Pediatrics*, 145(1).
- Hartley, S. L., Papp, L. M., & Bolt, D. (2018). Spillover of marital interactions and parenting stress in families of children with autism spectrum disorder. *Journal of Clinical Child & Adolescent Psychology*, 47(sup1), S88-S99.
- Hertler, S. C., Figueredo, A. J., Peñaherrera-Aguirre, M., Fernandes, H. B., Woodley of Menie, M. A., Hertler, S. C., . . . Woodley of Menie, M. A. (2018). Urie Bronfenbrenner: Toward an evolutionary ecological systems theory. *Life history evolution: A biological Meta-theory for the social sciences*, 323-339.
- Holding, A., Moore, A., Verner-Filion, J., Kachanoff, F., & Koestner, R. (2022). Choosing to lose it: The role of autonomous motivation in goal disengagement. *Motivation and Emotion*, 46(6), 769-789.
- Haugan, A.-L. J., Sund, A. M., Thomsen, P. H., Lydersen, S., & Nøvik, T. S. (2021). Psychometric properties of the Weiss Functional Impairment Rating Scale parent and self-reports in a Norwegian clinical sample of adolescents treated for ADHD. *Nordic Journal of Psychiatry*, 75(1), 63-72.
- Hodges, H., Fealko, C., & Soares, N. (2020). Autism spectrum disorder: definition, epidemiology, causes, and clinical evaluation. *Translational pediatrics*, 9(Suppl 1), S55.
- Ilyas, U., & Khan, S. D. (2023). Role of Parenting and Psychosocial Correlates Contributing to Social Anxiety in Asian Adolescents: A Systematic Review. *Innovations in clinical neuroscience*, 20(7-9), 30.

- İnci İzmir, S. B., Aktan, Z. D., & Ercan, E. S. (2024). Assessing the mediating relationships between psychological factors in children with attention deficit hyperactivity disorder and cognitive disengagement syndrome. *Applied Neuropsychology: Child*, 1-17.
- Imran, N., & Azeem, M. W. (2014). Autism spectrum disorders: perspective from Pakistan. *Comprehensive Guide to Autism*. New York: Springer, 2483-2496.
- Jarrett, M. A., Gable, P. A., Rondon, A. T., Neal, L. B., Price, H. F., & Hilton, D. C. (2020). An EEG study of children with and without ADHD symptoms: between-group differences and associations with sluggish cognitive tempo symptoms. *Journal of Attention Disorders*, 24(7), 1002-1010.
- Jadon, P. S., & Tripathi, S. (2017). Effect of authoritarian parenting style on self esteem of the child: A systematic review. *International Journal of Advance Research and Innovative Ideas in Education*, 3(3), 909-913.
- Juwono, I. D., & Szabo, A. (2020). The efficacy of self determination theory-based interventions in increasing students' physical activity: A systematic review. *Physical Activity Review*, 1(8), 74-86.
- Kaur, M., & Ghosh, S. (2022). Aggression and Adjustment Among Young Adults. *International journal of health sciences*, 6(S1), 8992-9008.
- Kardaş, B., Baytunca, B., Bolat, G. Ü., İpçi, M., İnci, B., Özyurt, O., . . . Ercan, E. S. (2021). An investigation of cranial functional magnetic resonance imaging results in children and adolescents with attention deficit and hyperactivity disorder and sluggish cognitive tempo (SCT). *International Journal of Child Health & Human Development*, 14(1).
- Kallus, R., Mayes, S., Bangert, L., Fosco, W., Calhoun, S., & Waschbusch, D. (2021). *Relationship Between Sluggish Cognitive Tempo, IQ and Academic Achievement Test Scores, and*

*Academic Impairment in Autism Spectrum Disorder, ADHD, and Elementary School Samples.* Paper presented at the 68th Annual Meeting.

Kelley, E., Naigles, L., & Fein, D. (2010). An in-depth examination of optimal outcome children with a history of autism spectrum disorders. *Research in autism spectrum disorders*, 4(3), 526-538.

Kernder, T., Doepfner, M., Dose, C., & Goertz-Dorten, A. (2019). Psychometric properties of a modified version of the Weiss Functional Impairment Rating Scale-Parent Report (WFIRS-P) in a clinical sample of children with aggressive behavior. *Quality of Life Research*, 28, 241-251.

Kerr, M., Stattin, H., & Özdemir, M. (2012). Perceived parenting style and adolescent adjustment: revisiting directions of effects and the role of parental knowledge. *Developmental psychology*, 48(6), 1540.

Khalil, I., Gul, S., & Aftab, M. J. (2024). Understanding the Experiences of Fathers Raising Children with Autism Spectrum Disorder: A Qualitative Study in Pakistan. *Al-Mahdi Research Journal (MRJ)*, 5(4), 316-328.

Khalid, M., Raza, H., M. Driessen, T., J. Lee, P., Tejawani, L., Sami, A., . . . Kaukab Raja, G. (2020). Genetic risk of autism spectrum disorder in a Pakistani population. *Genes*, 11(10), 1206.

Khalid, E., VanLandingham, H. B., Basurto, K. S., Nili, A. N., Gonzalez, C., Guilfoyle, J. L., . . . Resch, Z. J. (2024). Exploring Subfactors of Adult Cognitive Disengagement Syndrome and Impact on Neuropsychological Performance. *Journal of Attention Disorders*, 28(6), 957-969.

- Koriakin, T. A., Mahone, E. M., & Jacobson, L. A. (2015). Sleep difficulties are associated with parent report of sluggish cognitive tempo. *Journal of Developmental & Behavioral Pediatrics*, 36(9), 717-723.
- Kopp, S., Beckung, E., & Gillberg, C. (2010). Developmental coordination disorder and other motor control problems in girls with autism spectrum disorder and/or attention-deficit/hyperactivity disorder. *Research in developmental disabilities*, 31(2), 350-361.
- Kaçmaz, C., Çelik, O. T., Sağlam, M., Kay, M. A., & İnci, R. (2024). Bibliometric Trends and Thematic Areas in Research on Cognitive Disengagement Syndrome in Children: A Comprehensive Review. *Research on Child and Adolescent Psychopathology*, 1-41.
- Kofler, M. J., Irwin, L. N., Sarver, D. E., Fosco, W. D., Miller, C. E., Spiegel, J. A., & Becker, S. P. (2019). What cognitive processes are “sluggish” in sluggish cognitive tempo? *Journal of consulting and clinical psychology*, 87(11), 1030.
- Kooraneh, A. E., & Amirsardari, L. (2015). Predicting early maladaptive schemas using Baumrind’s parenting styles. *Iranian journal of psychiatry and behavioral sciences*, 9(2).
- Kuppens, S., & Ceulemans, E. (2019). Parenting styles: A closer look at a well-known concept. *Journal of child and family studies*, 28(1), 168-181. (1966, 1967, 1971) (1989, 1991)
- Krone, B., Adler, L. A., Anbarasan, D., Leon, T., Gallagher, R., Patel, P., . . . Newcorn, J. H. (2023). Characteristics of Sluggish Cognitive Tempo among adults with ADHD: objective neurocognitive measures align with self-report of executive function. *Frontiers in Child and Adolescent Psychiatry*, 2, 1188901.
- Lam, R. W., Filteau, M.-J., & Milev, R. (2011). Clinical effectiveness: the importance of psychosocial functioning outcomes. *Journal of Affective Disorders*, 132, S9-S13.



- Langberg, J. M., Becker, S. P., Dvorsky, M. R., & Luebke, A. M. (2014). Are sluggish cognitive tempo and daytime sleepiness distinct constructs? *Psychological assessment*, 26(2), 586.
- Lee, S. M., Daniels, M. H., & Kissinger, D. B. (2006). Parental influences on adolescent adjustment: Parenting styles versus parenting practices. *The Family Journal*, 14(3), 253-259.
- Likhitweerawong, N., Boonchooduang, N., & Louthrenoo, O. (2022). Parenting styles, parental stress, and quality of life among caregivers of Thai children with autism. *International Journal of Disability, Development and Education*, 69(6), 2094-2107.
- Liu, Y., Zhang, M., Qi, D., & Zhang, Y. (2023). Understanding the role of learner engagement in determining MOOCs satisfaction: A self-determination theory perspective. *Interactive Learning Environments*, 31(9), 6084-6098.
- Lin, L.-Y., & Huang, P.-C. (2019). Quality of life and its related factors for adults with autism spectrum disorder. *Disability and rehabilitation*, 41(8), 896-903.
- Lassen, J., Aggernæs, B., Foldager, M., Pedersen, J., Oranje, B., Kjær, T. W., . . . Vestergaard, M. (2022). Psychopathological symptoms associated with psychosocial functioning in children and adolescents with autism spectrum disorders and their typically developing peers. *Research in autism spectrum disorders*, 98, 102040.
- Lan, M., & Hew, K. F. (2020). Examining learning engagement in MOOCs: A self-determination theoretical perspective using mixed method. *International Journal of Educational Technology in Higher Education*, 17(1), 7.
- Long, J., & Cumming, J. (2020). Psychosocial variables *Encyclopedia of behavioral medicine* (pp. 1801-1802): Springer.

- Lucero, J. A. (2017). Raising children with autism spectrum disorder: A study on parenting styles and techniques. *International Journal of Management and Applied Science*, 3(8), 48-53.
- Mohammadi, M., & Zarafshan, H. (2014). Family function, parenting style and broader autism phenotype as predicting factors of psychological adjustment in typically developing siblings of children with autism spectrum disorders. *Iranian journal of psychiatry*, 9(2), 55.
- Mahmood, Z. (2009). Relationship between perceived parenting styles and levels of depression, anxiety, and frustration tolerance in female students. *Pakistan Journal of Psychological Research*, 63-78.
- McCauley, J. B., Harris, M. A., Zajic, M. C., Swain-Lerro, L. E., Oswald, T., McIntyre, N., . . . Solomon, M. (2019). Self-esteem, internalizing symptoms, and theory of mind in youth with autism spectrum disorder. *Journal of Clinical Child & Adolescent Psychology*, 48(3), 400-411.
- Mumtaz, N., Fatima, T., & Saqulain, G. (2022). Perception of burden and stress among mothers of autistic children in Pakistani cultural background. *Iranian Rehabilitation Journal*, 20(1), 43-52.
- Munkhaugen, E. K., Gjevik, E., Pripp, A. H., Sponheim, E., & Diseth, T. H. (2017). School refusal behaviour: Are children and adolescents with autism spectrum disorder at a higher risk? *Research in autism spectrum disorders*, 41, 31-38.
- Miller, M. C., Shapiro, S. K., & Becker, S. P. (2024). Examining Cognitive Disengagement Syndrome in Relation to Social Problem Solving in Young Adults. *Journal of Attention Disorders*, 28(9), 1289-1298.

- Mandal, K., Das, S., Datta, K., Chowdhury, S. R., & Datta, S. (2021). Study to determine the relationship between parenting style and adolescent self-esteem. *IP Journal of Paediatrics and Nursing Science*, 3(4), 112-117.
- Mayes, S. D., Kallus, R., Bangert, L. R., Fosco, W., Calhoun, S. L., & Waschbusch, D. A. (2022). Relationship between sluggish cognitive tempo, IQ and academic achievement test scores, and academic impairment in autism, ADHD, and elementary school samples. *Child Neuropsychology*, 28(2), 244-265.
- Mayes, S. D., Calhoun, S. L., & Waschbusch, D. A. (2021). Relationship between sluggish cognitive tempo and sleep, psychological, somatic, and cognitive problems and impairment in children with autism and children with ADHD. *Clinical Child Psychology and Psychiatry*, 26(2), 518-530.
- Mehta, S., Mittal, P. K., & Swami, M. K. (2014). Psychosocial functioning in depressive patients: a comparative study between major depressive disorder and bipolar affective disorder. *Depression research and treatment*, 2014.
- Manninen, M., Dishman, R., Hwang, Y., Magrum, E., Deng, Y., & Yli-Piipari, S. (2022). Self-determination theory based instructional interventions and motivational regulations in organized physical activity: A systematic review and multivariate meta-analysis. *Psychology of sport and exercise*, 62, 102248.
- Mayes, S. D., Becker, S. P., Calhoun, S. L., & Waschbusch, D. A. (2023). Comparison of the cognitive disengagement and hypoactivity components of sluggish cognitive tempo in autism, ADHD, and population-based samples of children. *Research on Child and Adolescent Psychopathology*, 51(1), 47-54.

- Mayes, S. D., Calhoun, S. L., & Waschbusch, D. A. (2023). Relationship between cognitive disengagement syndrome (CDS)(formerly sluggish cognitive tempo) and social functioning in child autism, ADHD, and elementary school samples. *Research in autism spectrum disorders*, 108, 102250.
- Martel, M. M., Von Eye, A., & Nigg, J. (2012). Developmental differences in structure of attention-deficit/hyperactivity disorder (ADHD) between childhood and adulthood. *International Journal of Behavioral Development*, 36(4), 279-292.
- McFayden, T., Jarrett, M. A., White, S. W., Scarpa, A., Dahiya, A., & Ollendick, T. H. (2022). Sluggish cognitive tempo in autism spectrum disorder, ADHD, and their comorbidity: Implications for impairment. *Journal of Clinical Child & Adolescent Psychology*, 51(2), 195-202.
- Merçon-Vargas, E. A., Lima, R. F. F., Rosa, E. M., & Tudge, J. (2020). Processing proximal processes: What Bronfenbrenner meant, what he didn't mean, and what he should have meant. *Journal of family theory & review*, 12(3), 321-334.
- Magiati, I., Tay, X. W., & Howlin, P. (2014). Cognitive, language, social and behavioural outcomes in adults with autism spectrum disorders: A systematic review of longitudinal follow-up studies in adulthood. *Clinical psychology review*, 34(1), 73-86.
- Miaskowski, C., Blyth, F., Nicosia, F., Haan, M., Keefe, F., Smith, A., & Ritchie, C. (2020). A biopsychosocial model of chronic pain for older adults. *Pain Medicine*, 21(9), 1793-1805.
- Mueller, A. K., Tucha, L., Koerts, J., Groen, Y., Lange, K. W., & Tucha, O. (2014). Sluggish cognitive tempo and its neurocognitive, social and emotive correlates: a systematic review of the current literature. *Journal of Molecular Psychiatry*, 2, 1-13.

- Musicaro, R. M., Ford, J., Suvak, M. K., Sposato, A., & Andersen, S. (2020). Sluggish cognitive tempo and exposure to interpersonal trauma in children. *Anxiety, Stress, & Coping*, 33(1), 100-114.
- Martinez-Escudero, J. A., Villarejo, S., Garcia, O. F., & Garcia, F. (2020). Parental socialization and its impact across the lifespan. *Behavioral Sciences*, 10(6), 101.
- Nguyen, W., Ownsworth, T., Nicol, C., & Zimmerman, D. (2020). How I see and feel about myself: Domain-specific self-concept and self-esteem in autistic adults. *Frontiers in Psychology*, 11, 913.
- Nadeem, N., Afzal, S., Dogar, I., Smith, J., Shah, T., Noreen, M., & Ali, A. (2024). The impact of having an autistic child on parental mental health and wellbeing in Pakistan. *Research in autism spectrum disorders*, 115, 102423.
- Nadeem, S., Rafique, G., Khowaja, L., & Yameen, A. (2014). Assessing home environment for early child development in Pakistan. *Child care in practice*, 20(2), 194-206.
- Nadeem, G., Bibi, A., Suhaib, B., Ahmed, S., & Ali, S. (2019). Clinical and demographic features of 76 children with autism spectrum disorders at a centre in Pakistan. *Journal of the College of Physicians and Surgeons Pakistan*, 29(4), 390-391.
- Noor, N., Talha, M., Ahmad, S. A., Mohyidin, M., Shah, S., Mohyidin, S., & Faheem, F. (2021). Evaluation of the prevalence of childhood autism awareness amongst medical professionals in Pakistan. *Consultant*, 1, 1-0.
- Nourani-Jourjade, S.-R., Mashhadi, A., Bigdeli, I., & Rasoolzade-Tabatabai, S.-K. (2024). The Mediating Role of Emotion Regulation on the Relation between ADHD Symptoms, Cognitive Disengagement Syndrome and Symptoms of Anxiety and Depression among College Students. *International Journal of Behavioral Sciences*, 18(2), 52-59.

- Nyrenius, J., & Billstedt, E. (2020). The functional impact of cognition in adults with autism spectrum disorders. *Nordic Journal of Psychiatry*, 74(3), 220-225.
- Osborne, L. A., & Reed, P. (2010). Stress and self-perceived parenting behaviors of parents of children with autistic spectrum conditions. *Research in autism spectrum disorders*, 4(3), 405-414.
- Olson, L., Chen, B., Ibarra, C., Wang, T., Mash, L., Linke, A., . . . Fishman, I. (2022). Externalizing behaviors are associated with increased parenting stress in caregivers of young children with autism. *Journal of autism and developmental disorders*, 1-12.
- Ozturk, Y., Riccadonna, S., & Venuti, P. (2014). Parenting dimensions in mothers and fathers of children with Autism Spectrum Disorders. *Research in autism spectrum disorders*, 8(10), 1295-1306.
- Pellicano, E., Cribb, S., & Kenny, L. (2020). Patterns of continuity and change in the psychosocial outcomes of young autistic people: A mixed-methods study. *Journal of abnormal child psychology*, 48(2), 301-313.
- Pallathra, A. A., Cordero, L., Wong, K., & Brodtkin, E. S. (2019). Psychosocial interventions targeting social functioning in adults on the autism spectrum: A literature review. *Current psychiatry reports*, 21, 1-11.
- Papadopoulos, D. (2021). Mothers' experiences and challenges raising a child with autism spectrum disorder: A qualitative study. *Brain sciences*, 11(3), 309.

- Pinquart, M., & Kauser, R. (2018). Do the associations of parenting styles with behavior problems and academic achievement vary by culture? Results from a meta-analysis. *Cultural Diversity & Ethnic Minority Psychology, 24*(1), 75.
- Qiu, Y., Xu, L., Pan, Y., He, C., Huang, Y., Xu, H., . . . Dong, C. (2021). Family resilience, parenting styles and psychosocial adjustment of children with chronic illness: A cross-sectional study. *Frontiers in psychiatry, 12*, 646421.
- Rauf, K., & Ahmed, J. (2017). The relationship of authoritarian parenting style and academic performance in school students. *Pakistan journal of psychology, 48*(2).
- Rezai Niaraki, F., & Rahimi, H. (2013). The impact of authoritative, permissive and authoritarian behavior of parents on self-concept, psychological health and life quality. *European online journal of natural and social sciences, 2*(1), pp. 78-85.
- Rizvi, S. F. I., & Najam, N. (2015). Emotional and behavioral problems associated with parenting styles in Pakistani adolescents. *VFAST Transactions on Education and Social Sciences, 3*(1), 200-207.
- Richards, B. (2023). Associations Between Parenting Styles & Parental Self-Efficacy.
- Reeve, J. (2012). A self-determination theory perspective on student engagement *Handbook of research on student engagement* (pp. 149-172): Springer.
- Rondon, A. T., Hilton, D. C., Jarrett, M. A., & Ollendick, T. H. (2020). Sleep, internalizing problems, and social withdrawal: Unique associations in clinic-referred youth with elevated sluggish cognitive tempo symptoms. *Journal of Attention Disorders, 24*(4), 524-534.
- Rosa, E. M., & Tudge, J. (2013). Urie Bronfenbrenner's theory of human development: Its evolution from ecology to bioecology. *Journal of family theory & review, 5*(4), 243-258.

- Roughgarden, J., May, R. M., & Levin, S. A. (2014). *Perspectives in ecological theory* (Vol. 986): Princeton University Press.
- Roy, A., & Campbell, M. K. (2013). A unifying framework for depression: bridging the major biological and psychosocial theories through stress. *Clinical and investigative medicine*, 36(4), E170-E190.
- Ruiz-Hernández, J. A., Moral-Zafra, E., Llor-Esteban, B., & Jiménez-Barbero, J. A. (2018). Influence of parental styles and other psychosocial variables on the development of externalizing behaviors in adolescents: A systematic review. *European Journal of Psychology Applied to Legal Context*, 11(1), 9-21.
- Sahithya, B., Manohari, S., & Vijaya, R. (2019). Parenting styles and its impact on children—a cross cultural review with a focus on India. *Mental Health, Religion & Culture*, 22(4), 357-383. (1983)
- Sadeghi-Bahmani, D., Eisenhut, L., Mikoteit, T., Helfenstein, N., Brühl, A. B., Dürsteler, K. M., . . . Brand, S. (2025). Cognitive Disengagement Syndrome (CDS) and Psychological Ill-Being in Young Adults Using the Adult Concentration Inventory (ACI). *Journal of Clinical Medicine*, 14(7), 2362.
- Smetana, J. G. (2017). Current research on parenting styles, dimensions, and beliefs. *Current opinion in psychology*, 15, 19-25.
- Schmidt, L., Kirchner, J., Strunz, S., Brożus, J., Ritter, K., Roepke, S., & Dziobek, I. (2015). Psychosocial functioning and life satisfaction in adults with autism spectrum disorder without intellectual impairment. *Journal of Clinical Psychology*, 71(12), 1259-1268.



- Schwartzman, J. M., Hardan, A. Y., & Gengoux, G. W. (2021). Parenting stress in autism spectrum disorder may account for discrepancies in parent and clinician ratings of child functioning. *Autism, 25*(6), 1601-1614.
- Shyny, T. (2017). Construction and validation of PS-FFQ (parenting style four factor questionnaire). *International Journal of Engineering Development and Research, 5*(3), 426-437.
- Smith, Z. R., & Langberg, J. M. (2020). Do sluggish cognitive tempo symptoms improve with school-based ADHD interventions? Outcomes and predictors of change. *Journal of Child Psychology and Psychiatry, 61*(5), 575-583.
- Smith, Z. R., Breaux, R. P., Green, C. D., & Langberg, J. M. (2019). Evaluation of the interplay between homework motivation and sluggish cognitive tempo in youth with ADHD: Associations with homework performance. *Journal of Attention Disorders, 23*(11), 1262-1273.
- Smith, J. N., & Suhr, J. A. (2021). Sluggish cognitive tempo factors in emerging adults: Symptomatic and neuropsychological correlates. *Developmental Neuropsychology, 46*(3), 169-183.
- Smith, Z. R., Del Castillo, A., Clark, O. E., & Holmbeck, G. N. (2022). Working memory and cognitive flexibility predict growth trajectories of sluggish cognitive tempo in youth with spina bifida. *Child Neuropsychology, 28*(8), 1052-1071.
- Sarovic, D. (2021). A unifying theory for autism: the pathogenetic triad as a theoretical framework. *Frontiers in Psychiatry, 12*, 767075

- Sarfo, J. O., Obeng, P., Kyereh, H. K., Ansah, E. W., & Attafuah, P. Y. A. (2023). Self-Determination Theory and Quality of Life of Adults with Diabetes: A Scoping Review. *Journal of Diabetes Research*, 2023(1), 5341656.
- Scheeren, A. M., Buil, J. M., Howlin, P., Bartels, M., & Begeer, S. (2022). Objective and subjective psychosocial outcomes in adults with autism spectrum disorder: A 6-year longitudinal study. *Autism*, 26(1), 243-255.
- Servera, M., Sáez, B., Burns, G. L., & Becker, S. P. (2018). Clinical differentiation of sluggish cognitive tempo and attention-deficit/hyperactivity disorder in children. *Journal of abnormal psychology*, 127(8), 818.
- Spear, C. F., Strickland-Cohen, M. K., Romer, N., & Albin, R. W. (2013). An examination of social validity within single-case research with students with emotional and behavioral disorders. *Remedial and Special Education*, 34(6), 357-370.
- Tamm, L., Epstein, J. N., Orban, S. A., Kofler, M. J., Peugh, J. L., & Becker, S. P. (2024). Neurocognition in children with cognitive disengagement syndrome: accurate but slow. *Child Neuropsychology*, 30(2), 221-240.
- Taylor, S. G., Sicheloff, E. R., Roberts, A. M., Bradley, W. J., Bridges, R. M., Lorch, E. P., . . . Flory, K. (2020). Emotion dysregulation and sluggish cognitive tempo as moderators of cortisol responsivity in children with ADHD. *Advances in Neurodevelopmental Disorders*, 4, 227-240.
- Tahıllıoğlu, A., Bilaç, Ö., Erbaş, S., Barankoğlu Sevin, İ., Aydınlioğlu, H. M., & Ercan, E. S. (2024). The association between cognitive disengagement syndrome and specific learning disorder in children and adolescents with ADHD. *Applied Neuropsychology: Child*, 1-9.

- Tahilloğlu, A., Celik, D., Huseynova, S., Satar, A., & Ercan, E. S. (2023). The association between autistic-like traits and sluggish cognitive tempo symptoms in children with ADHD. *International Journal of Developmental Disabilities*, 1-10.
- Tamm, L., Brenner, S. B., Bamberger, M. E., & Becker, S. P. (2018). Are sluggish cognitive tempo symptoms associated with executive functioning in preschoolers? *Child Neuropsychology*, 24(1), 82-105.
- Tamm, L., Epstein, J. N., Orban, S. A., Kofler, M. J., Peugh, J. L., & Becker, S. P. (2024). Neurocognition in children with cognitive disengagement syndrome: Accurate but slow. *Child Neuropsychology*, 30(2), 221-240.
- Tamm, L., Garner, A. A., Loren, R. E., Epstein, J. N., Vaughn, A. J., Ciesielski, H. A., & Becker, S. P. (2016). Slow sluggish cognitive tempo symptoms are associated with poorer academic performance in children with ADHD. *Psychiatry research*, 242, 251-259.
- Teas, E., Friedman, E., & Amireault, S. (2022). Purpose in life and personal growth: The unique and joint contribution of physical activity and basic psychological needs. *Applied Psychology: Health and Well-Being*, 14(3), 795-818.
- Teixeira, P. J., Carraça, E. V., Markland, D., Silva, M. N., & Ryan, R. M. (2012). Exercise, physical activity, and self-determination theory: a systematic review. *International journal of behavioral nutrition and physical activity*, 9, 1-30.
- Thompson, T., Lloyd, A., Joseph, A., & Weiss, M. (2017). The Weiss Functional Impairment Rating Scale-Parent Form for assessing ADHD: evaluating diagnostic accuracy and determining optimal thresholds using ROC analysis. *Quality of Life Research*, 26, 1879-1885.

- Tong, P., & An, I. S. (2024). Review of studies applying Bronfenbrenner's bioecological theory in international and intercultural education research. *Frontiers in Psychology, 14*, 1233925.
- Truskey, L. (2021). The Association Between Sluggish Cognitive Tempo, Big Five Personality Factors, and Comorbid Clinical Syndromes in Adults Seeking Treatment for ADHD.
- Upton, J. (2020). Psychosocial factors *Encyclopedia of behavioral medicine* (pp. 1795-1797): Springer
- Voliovitch, Y., Leventhal, J. M., Fenick, A. M., Gupta, A. R., Feinberg, E., Hickey, E. J., . . . Weitzman, C. (2021). Parenting stress and its associated components prior to an autism spectrum disorder (ASD) diagnostic evaluation. *Journal of autism and developmental disorders, 1-11*.
- Vecchione, M., Ghezzi, V., Alessandri, G., Dentale, F., & Corr, P. J. (2021). BIS and BAS sensitivities at different levels of personality description: A latent-variable approach with self-and informant-ratings. *Journal of personality assessment, 103*(2), 246-257.
- Veiga, G. R. S., da Silva, G. A. P., Padilha, B. M., & de Carvalho Lima, M. (2023). Determining factors of child linear growth from the viewpoint of Bronfenbrenner's Bioecological Theory. *Jornal de Pediatria, 99*(3), 205-218.
- Vuijk, R., Deen, M., Sizoo, B., & Arntz, A. (2018). Temperament, character, and personality disorders in adults with autism spectrum disorder: a systematic literature review and meta-analysis. *Review Journal of Autism and Developmental Disorders, 5*(2), 176-197.
- Vizzotto, A. D. B., de Oliveira, A. M., Elkis, H., Cordeiro, Q., & Buchain, P. C. (2020). Psychosocial characteristics *Encyclopedia of behavioral medicine* (pp. 1794-1795): Springer.

- Weiss, M. D., McBride, N. M., Craig, S., & Jensen, P. (2018). Conceptual review of measuring functional impairment: findings from the Weiss Functional Impairment Rating Scale. *BMJ Ment Health, 21*(4), 155-164.
- Weiss, M. (2000). Weiss functional impairment rating scale (WFIRS) instructions. *Vancouver, BC: University of British Columbia.*
- Wood, W. L., Lewandowski, L. J., Lovett, B. J., & Antshel, K. (2020). Sluggish cognitive tempo and impairment: The role of lifestyle factors. *Psychology in the Schools, 57*(7), 1171-1188.
- Ward, A. R., Sibley, M. H., Musser, E. D., Campey, M., Bubnik-Harrison, M. G., Meinzer, M. C., & Yeguez, C. E. (2019). Relational impairments, sluggish cognitive tempo, and severe inattention are associated with elevated self-rated depressive symptoms in adolescents with ADHD. *ADHD Attention Deficit and Hyperactivity Disorders, 11*, 289-298.
- Wade, D. T., & Halligan, P. W. (2017). The biopsychosocial model of illness: a model whose time has come (Vol. 31, pp. 995-1004): SAGE publications Sage UK: London, England.
- Wigham, S., Rodgers, J., Berney, T., Le Couteur, A., Ingham, B., & Parr, J. R. (2019). Psychometric properties of questionnaires and diagnostic measures for autism spectrum disorders in adults: A systematic review. *Autism, 23*(2), 287-305.
- Yung, T. W., Lai, C. Y., Chan, J. Y., Ng, S. S., & Chan, C. C. (2021). Examining the role of attention deficits in the social problems and withdrawn behavior of children with sluggish cognitive tempo symptoms. *Frontiers in Psychiatry, 12*, 585589.
- Zaman, R. M. (2013). Parenting in Pakistan: an overview. *Parenting across cultures: Childrearing, motherhood and fatherhood in non-Western cultures*, 91-104.
- Zimmerman, D., Ownsworth, T., O'Donovan, A., Roberts, J., & Gullo, M. J. (2018). High-functioning autism spectrum disorder in adulthood: A systematic review of factors related

to psychosocial outcomes. *Journal of Intellectual & Developmental Disability*, 43(1), 2-19.

Zhang, H., Li, D., & Li, X. (2015). Temperament and problematic internet use in adolescents: A moderated mediation model of maladaptive cognition and parenting styles. *Journal of child and family studies*, 24, 1886-1897

Zhou, T., & Yi, C. (2014). Parenting styles and parents' perspectives on how their own emotions affect the functioning of children with autism spectrum disorders. *Family process*, 53(1), 67-79.

## **APPENDICES**

## Appendix-A

### Informed Consent & Demographic Sheet

#### Informed Consent

My name is Faryal Khan. I am an MPhil student in Applied Psychology at the National University of Modern Languages, Islamabad. I am conducting a research on autistic children and relation with parenting styles. Your voluntary participation in this research is appreciated. All information provided will be confidential and use solely for research purposes. You can withdraw from the study at any time if you experience discomfort. Your cooperation is invaluable. Thank you for your participation!

#### Demographic Sheet

##### Gender

|        |         |
|--------|---------|
| 1) Boy | 2) Girl |
|--------|---------|

##### Relation with Child

|           |           |
|-----------|-----------|
| 1) Father | 2) Mother |
|-----------|-----------|

Age in years \_\_\_\_\_

##### Mother Education

|           |       |       |       |           |
|-----------|-------|-------|-------|-----------|
| 1) Matric | 2) FA | 3) BA | 4) MA | 5) Higher |
|-----------|-------|-------|-------|-----------|

##### Mother Working Status

|              |             |            |           |                         |
|--------------|-------------|------------|-----------|-------------------------|
| 1) Housewife | 2) Employed | 3) Teacher | 4) Doctor | 5) Any other else _____ |
|--------------|-------------|------------|-----------|-------------------------|

##### Father Education

|           |       |       |       |           |
|-----------|-------|-------|-------|-----------|
| 1) Matric | 2) FA | 3) BA | 4) MA | 5) Higher |
|-----------|-------|-------|-------|-----------|

##### Father Working Status

|               |             |                   |                |                         |
|---------------|-------------|-------------------|----------------|-------------------------|
| 1) Unemployed | 2) Employed | 3) Government Job | 4) Private Job | 5) Any other else _____ |
|---------------|-------------|-------------------|----------------|-------------------------|

##### Family System

|          |            |
|----------|------------|
| 1) Joint | 2) Nuclear |
|----------|------------|

##### Anyone else in Family affected by disease

|                         |                            |
|-------------------------|----------------------------|
| 1) With Disease History | 2) Without Disease History |
|-------------------------|----------------------------|



## Appendix- B

### Cognitive Disengagement Syndrome-Parent Report

Please circle the answer that indicates how often your daughter or son has shown the behavior in the past month at home and in the community (Do not consider behavior at school).

| <b>Statements</b> |                                        | <b>Almost<br/>Never</b><br>(Never<br>or about<br>once per<br>month) | <b>Seldom</b><br>(about<br>once per<br>week) | <b>Sometimes</b><br>(several<br>times per<br>week) | <b>Often</b><br>(about<br>once<br>per<br>day) | <b>Very<br/>often</b><br>(several<br>times<br>per day) | <b>Almost<br/>Always</b><br>(many<br>times<br>per day) |
|-------------------|----------------------------------------|---------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------|-----------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| <b>1</b>          | Behavior is slow                       | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>2</b>          | Appears lost in a fog                  | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>3</b>          | Stares off into space                  | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>4</b>          | Drowsy or sleepy during the day        | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>5</b>          | Daydreams                              | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>6</b>          | Loses train of thought                 | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>7</b>          | Low level of activity (underactive)    | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>8</b>          | Gets lost in own thoughts              | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>9</b>          | Easily tired or fatigued               | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>10</b>         | Forgets what was going to say          | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>11</b>         | Easily confused                        | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>12</b>         | Spaces or zones out                    | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>13</b>         | Thinking gets mixed up                 | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>14</b>         | Thinking is slow                       | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |
| <b>15</b>         | Difficulty putting thoughts into words | 0                                                                   | 1                                            | 2                                                  | 3                                             | 4                                                      | 5                                                      |

## Appendix- C

### Weiss Functional Impairment Rating Scale- Parent Report

Circle the number for the rating that best describes how your child's emotional or behavioral problems have affected each item in the last month.

| Statements |                                                            | Never or<br>Not at<br>all | Sometimes<br>or<br>somewhat | Often<br>or<br>much | Very<br>often or<br>very<br>much | n/a |
|------------|------------------------------------------------------------|---------------------------|-----------------------------|---------------------|----------------------------------|-----|
| <b>A</b>   | <b>FAMILY</b>                                              |                           |                             |                     |                                  |     |
| <b>1</b>   | Having problems with brothers & sisters                    | 0                         | 1                           | 2                   | 3                                | n/a |
| <b>2</b>   | Causing problems between parents                           | 0                         | 1                           | 2                   | 3                                | n/a |
| <b>3</b>   | Takes time away from family members' work or activities    | 0                         | 1                           | 2                   | 3                                | n/a |
| <b>4</b>   | Causing fighting in the family                             | 0                         | 1                           | 2                   | 3                                | n/a |
| <b>5</b>   | Isolating the family from friends and social activities    | 0                         | 1                           | 2                   | 3                                | n/a |
| <b>6</b>   | Makes it hard for the family to have fun together          | 0                         | 1                           | 2                   | 3                                | n/a |
| <b>7</b>   | Makes parenting difficult                                  | 0                         | 1                           | 2                   | 3                                | n/a |
| <b>8</b>   | Makes it hard to give fair attention to all family members | 0                         | 1                           | 2                   | 3                                | n/a |
| <b>9</b>   | Provokes others to hit or scream at him/her                | 0                         | 1                           | 2                   | 3                                | n/a |
| <b>10</b>  | Costs the family more money                                | 0                         | 1                           | 2                   | 3                                | n/a |

|          |                                                             |   |   |   |   |     |
|----------|-------------------------------------------------------------|---|---|---|---|-----|
| <b>B</b> | <b>SCHOOL</b>                                               |   |   |   |   |     |
|          | <b>Learning</b>                                             |   |   |   |   |     |
| <b>1</b> | Makes it difficult to keep up with schoolwork               | 0 | 1 | 2 | 3 | n/a |
| <b>2</b> | Needs extra help at school                                  | 0 | 1 | 2 | 3 | n/a |
| <b>3</b> | Needs tutoring                                              | 0 | 1 | 2 | 3 | n/a |
| <b>4</b> | Receives grades that are not as good as his/her ability     | 0 | 1 | 2 | 3 | n/a |
|          | <b>Behavior</b>                                             |   |   |   |   |     |
| <b>1</b> | Causes problems for the teacher in the classroom            | 0 | 1 | 2 | 3 | n/a |
| <b>2</b> | Receives “time-out” or removal from the classroom           | 0 | 1 | 2 | 3 | n/a |
| <b>3</b> | Having problems in the school yard                          | 0 | 1 | 2 | 3 | n/a |
| <b>4</b> | Receives detentions (during or after school)                | 0 | 1 | 2 | 3 | n/a |
| <b>5</b> | Suspended or expelled from school                           | 0 | 1 | 2 | 3 | n/a |
| <b>6</b> | Misses classes or is late for school                        | 0 | 1 | 2 | 3 | n/a |
| <b>C</b> | <b>Life Skills</b>                                          |   |   |   |   |     |
| <b>1</b> | Excessive use of TV, computer, or video games               | 0 | 1 | 2 | 3 | n/a |
| <b>2</b> | Keeping clean, brushing teeth, brushing hair, bathing, etc. | 0 | 1 | 2 | 3 | n/a |
| <b>3</b> | Problems getting ready for school                           | 0 | 1 | 2 | 3 | n/a |

|           |                                                                               |   |   |   |   |     |
|-----------|-------------------------------------------------------------------------------|---|---|---|---|-----|
| <b>4</b>  | Problems getting ready for bed                                                | 0 | 1 | 2 | 3 | n/a |
| <b>5</b>  | Problems with eating (picky eater, junk food)                                 | 0 | 1 | 2 | 3 | n/a |
| <b>6</b>  | Problems with sleeping                                                        | 0 | 1 | 2 | 3 | n/a |
| <b>7</b>  | Gets hurt or injured                                                          | 0 | 1 | 2 | 3 | n/a |
| <b>8</b>  | Avoids exercise                                                               | 0 | 1 | 2 | 3 | n/a |
| <b>9</b>  | Needs more medical care                                                       | 0 | 1 | 2 | 3 | n/a |
| <b>10</b> | Has trouble taking medication, getting needles or visiting the doctor/dentist | 0 | 1 | 2 | 3 | n/a |
| <b>D</b>  | <b>Child's Self-Concept</b>                                                   |   |   |   |   |     |
| <b>1</b>  | My child feels bad about himself/herself                                      | 0 | 1 | 2 | 3 | n/a |
| <b>2</b>  | My child does not have enough fun                                             | 0 | 1 | 2 | 3 | n/a |
| <b>3</b>  | My child is not happy with his/her life                                       | 0 | 1 | 2 | 3 | n/a |
| <b>E</b>  | <b>Social Activities</b>                                                      |   |   |   |   |     |
| <b>1</b>  | Being teased or bullied by other children                                     | 0 | 1 | 2 | 3 | n/a |
| <b>2</b>  | Teases or bullies other children                                              | 0 | 1 | 2 | 3 | n/a |
| <b>3</b>  | Problems getting along with other children                                    | 0 | 1 | 2 | 3 | n/a |
| <b>4</b>  | Problems participating in after-school activities (sports, music, clubs)      | 0 | 1 | 2 | 3 | n/a |
| <b>5</b>  | Problems making new friends                                                   | 0 | 1 | 2 | 3 | n/a |

|          |                                                                |   |   |   |   |     |
|----------|----------------------------------------------------------------|---|---|---|---|-----|
| <b>6</b> | Problems keeping friends                                       | 0 | 1 | 2 | 3 | n/a |
| <b>7</b> | Difficulty with parties (not invited, avoids them, misbehaves) | 0 | 1 | 2 | 3 | n/a |
| <b>F</b> | <b>Risky Activities</b>                                        |   |   |   |   |     |
| <b>1</b> | Easily led by other children (peer pressure)                   | 0 | 1 | 2 | 3 | n/a |
| <b>2</b> | Breaking or damaging things                                    | 0 | 1 | 2 | 3 | n/a |
| <b>3</b> | Causes injury to others                                        | 0 | 1 | 2 | 3 | n/a |
| <b>4</b> | Says mean or inappropriate things                              | 0 | 1 | 2 | 3 | n/a |

## Appendix- D

### Autism Spectrum Screening Questionnaire

Please read the statement below and indicate by tapping, No, Somewhat, or Yes if this child stands out as different from other children of his/her age in the following ways:

| Statements |                                                                                                              | No | Somewhat | Yes |
|------------|--------------------------------------------------------------------------------------------------------------|----|----------|-----|
| 1          | Is old-fashioned or precocious                                                                               | 0  | 1        | 2   |
| 2          | Is regarded as an "eccentric professor" by the other children                                                | 0  | 1        | 2   |
| 3          | Lives somewhat in a world of his/her own with restricted idiosyncratic intellectual interests                | 0  | 1        | 2   |
| 4          | Accumulates facts on certain subjects (good rote memory) but does not really understand the meaning          | 0  | 1        | 2   |
| 5          | Has a literal understanding of ambiguous and metaphorical language                                           | 0  | 1        | 2   |
| 6          | Has a deviant style of communication with a formal, fussy, old-fashioned or "robot like" language            | 0  | 1        | 2   |
| 7          | Invents idiosyncratic words and expressions                                                                  | 0  | 1        | 2   |
| 8          | Has a different voice or speech                                                                              | 0  | 1        | 2   |
| 9          | Expresses sounds involuntarily; clears throat, grunts, smacks, cries or screams                              | 0  | 1        | 2   |
| 10         | Is surprisingly good at some things and surprisingly poor at others                                          | 0  | 1        | 2   |
| 11         | Uses language freely but fails to make adjustment to fit social contexts or the needs of different listeners | 0  | 1        | 2   |
| 12         | Lacks empathy                                                                                                | 0  | 1        | 2   |
| 13         | Makes naive and embarrassing remarks                                                                         | 0  | 1        | 2   |
| 14         | Has a deviant style of gaze                                                                                  | 0  | 1        | 2   |

|           |                                                                                                                        |   |   |   |
|-----------|------------------------------------------------------------------------------------------------------------------------|---|---|---|
| <b>15</b> | Wishes to be sociable but fails to make relationships with peers                                                       | 0 | 1 | 2 |
| <b>16</b> | Can be with other children but only on his/her terms                                                                   | 0 | 1 | 2 |
| <b>17</b> | Lacks best friend                                                                                                      | 0 | 1 | 2 |
| <b>18</b> | Lacks common sense                                                                                                     | 0 | 1 | 2 |
| <b>19</b> | Is poor at games: no idea of cooperating in a team, scores "own goals"                                                 | 0 | 1 | 2 |
| <b>20</b> | Has clumsy, ill coordinated, ungainly, awkward movements or gestures                                                   | 0 | 1 | 2 |
| <b>21</b> | Has involuntary face or body movements                                                                                 | 0 | 1 | 2 |
| <b>22</b> | Has difficulties in completing simple daily activities because of compulsory repetition of certain actions or thoughts | 0 | 1 | 2 |
| <b>23</b> | as special routines: insists on no change                                                                              | 0 | 1 | 2 |
| <b>24</b> | Shows idiosyncratic attachment to objects                                                                              | 0 | 1 | 2 |
| <b>25</b> | Is bullied by other children                                                                                           | 0 | 1 | 2 |
| <b>26</b> | Has markedly unusual facial expression                                                                                 | 0 | 1 | 2 |
| <b>27</b> | Has markedly unusual posture                                                                                           | 0 | 1 | 2 |

## Appendix- E

### Parenting Style- Four Factor Questionnaire

Read the following statements carefully and indicate your single response by putting a “tick” mark in the appropriate box.

| Statements |                                                                                                                                                    | Never | Rarely | Sometimes | Most of the time | All of the time |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-----------|------------------|-----------------|
| 1          | I want my child to follow my instructions because I am the authority to decide what to do or what not to do.                                       | 1     | 2      | 3         | 4                | 5               |
| 2          | I would like to be a friend, Philosopher and guide to my child.                                                                                    | 1     | 2      | 3         | 4                | 5               |
| 3          | I am very soft with my child so that I cannot correct him/her at proper time by punishment.                                                        | 1     | 2      | 3         | 4                | 5               |
| 4          | I do not have any demand or control on my child and I give total freedom.                                                                          | 1     | 2      | 3         | 4                | 5               |
| 5          | I have little patience to tolerate any misbehavior of my child or to listen to the excuses in any kind of mistakes.                                | 1     | 2      | 3         | 4                | 5               |
| 6          | I used to understand the feelings of my child in any situation and always try to get the opinion of my child whenever I buy something for him/her. | 1     | 2      | 3         | 4                | 5               |
| 7          | Whenever the child comes with low marks, I will not give any punishments rather I feel he/she will become better next time.                        | 1     | 2      | 3         | 4                | 5               |



|           |                                                                                                                                                   |   |   |   |   |   |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| <b>8</b>  | As I am very sad and depressed I cannot show much care and deep emotional tie up with my child.                                                   | 1 | 2 | 3 | 4 | 5 |
| <b>9</b>  | I strongly believe that my child's future is in my hand and so there is a strict time table for my child to follow.                               | 1 | 2 | 3 | 4 | 5 |
| <b>10</b> | Important decisions of the family are done together and I give full freedom to my child to share everything with me.                              | 1 | 2 | 3 | 4 | 5 |
| <b>11</b> | I give valuable reward to my child for obeying me or behaving well.                                                                               | 1 | 2 | 3 | 4 | 5 |
| <b>12</b> | As I am very busy with my household and office duties, I get less time to involve my child's studies or to listen his/her needs and wishes.       | 1 | 2 | 3 | 4 | 5 |
| <b>13</b> | I have clear expectations regarding my child's behavior and I am not much bothered about the likings of my child regarding his/her future.        | 1 | 2 | 3 | 4 | 5 |
| <b>14</b> | As I understand the strength and weakness of my child, I set some appropriate rules for him/her and give friendly corrections whenever necessary. | 1 | 2 | 3 | 4 | 5 |
| <b>15</b> | Though I have definite goal and planning about my child's future I cannot follow it strictly because of my leniency.                              | 1 | 2 | 3 | 4 | 5 |
| <b>16</b> | I have enough stress and strain myself and hence I cannot take care of my child's welfare.                                                        | 1 | 2 | 3 | 4 | 5 |

|           |                                                                                                                                   |   |   |   |   |   |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| <b>17</b> | I usually like to give physical punishment than giving advices to my child because I am sure he/she will not listen to it.        | 1 | 2 | 3 | 4 | 5 |
| <b>18</b> | I will not force my child in any of his/her future career and I also help him/her to set a realistic goal.                        | 1 | 2 | 3 | 4 | 5 |
| <b>19</b> | As I was brought up by strictly disciplined parents, I am very liberal with my child.                                             | 1 | 2 | 3 | 4 | 5 |
| <b>20</b> | I usually give more important to my own likes and wishes but not bother much about needs or misbehaviors of my child.             | 1 | 2 | 3 | 4 | 5 |
| <b>21</b> | I believe that only through punishment a child can be corrected and I also do not like to give any financial freedom to my child. | 1 | 2 | 3 | 4 | 5 |
| <b>22</b> | Whenever my child fail to follow the time table given to him/her, I remind the consequences with a touch of love and affection.   | 1 | 2 | 3 | 4 | 5 |
| <b>23</b> | I like to be a very affectionate parent towards my child and also I take the responsibility of my faulty parenting on my child.   | 1 | 2 | 3 | 4 | 5 |
| <b>24</b> | As I am busy and get little time to care my child, he/she is quite free to move own way to take decisions.                        | 1 | 2 | 3 | 4 | 5 |
| <b>25</b> | The punishment I give to my child depends upon my mood.                                                                           | 1 | 2 | 3 | 4 | 5 |

|           |                                                                                                                                    |   |   |   |   |   |
|-----------|------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| <b>26</b> | My child talks with me out of being punished after he/she has done something wrong.                                                | 1 | 2 | 3 | 4 | 5 |
| <b>27</b> | I always threaten my child with punishment but do not actually doing it because of my leniency.                                    | 1 | 2 | 3 | 4 | 5 |
| <b>28</b> | As I am bounded with severe life problems, I ignore my child's misbehavior and I have no idea about his/her life outside the home. | 1 | 2 | 3 | 4 | 5 |
| <b>29</b> | Whenever my child shows disobedience, I scold and criticize him/her with bursting anger.                                           | 1 | 2 | 3 | 4 | 5 |
| <b>30</b> | Even though I am busy I have enough time to visit my child's school & to meet teachers to know his/her progress.                   | 1 | 2 | 3 | 4 | 5 |
| <b>31</b> | Because of excessive love and sympathy I have showing towards my child, he/she has no self-discipline.                             | 1 | 2 | 3 | 4 | 5 |
| <b>32</b> | I never like to tell my child where I am going or why I am late.                                                                   | 1 | 2 | 3 | 4 | 5 |

## Appendix- F

### Informed Consent & Demographic Sheet

#### مطلع رضامندی (Informed Consent)

میرا نام فریال خان ہے ، میں نیشنل یونیورسٹی آف ماڈرن لینگویجز، اسلام آباد میں ایم فل نفسیات کی طالبہ ہوں، اور آئسٹک علامات والے بچوں اور والدین کے درمیان تعلق میں پرورش کے انداز پر ایک تحقیق کر رہی ہوں۔ اس سروے میں آپ کی رضاکارانہ شرکت انتہائی قابل قدر ہے اور میری تحقیق کی کامیابی میں بہت اہم کردار ادا کرے گی۔ براہ مہربانی یقین دہانی کریں کہ آپ کی فراہم کردہ تمام معلومات کو خفیہ رکھا جائے گا اور خاص طور پر تحقیقی مقاصد کے لئے استعمال کیا جائے گا۔ اگر آپ کو کسی بھی وقت تکلیف کا سامنا ہوں تو آپ تحقیق سے دستبردار ہوسکتے ہیں۔ میں اس اہم تحقیق میں مدد کرنے کے لئے وقت نکالنے پر آپ کا تہ دل سے شکریہ ادا کرتی ہوں۔

#### ذاتی کوائف (Demographic Sheet)

بچے کے ساتھ آپکا رشتہ

جنس:

|          |           |
|----------|-----------|
| (1) والد | (2) والدہ |
|----------|-----------|

|          |          |
|----------|----------|
| (1) لڑکا | (2) لڑکی |
|----------|----------|

عمر سالوں میں \_\_\_\_\_

والدہ کی تعلیم

|           |            |           |            |                 |
|-----------|------------|-----------|------------|-----------------|
| (1) میٹرک | (2) ایف اے | (3) بی اے | (4) ایم اے | (5) اس سے زیادہ |
|-----------|------------|-----------|------------|-----------------|

کام کی نوعیت

|                  |                |          |           |                    |
|------------------|----------------|----------|-----------|--------------------|
| (1) گھریلو خاتون | (2) برسرروزگار | (3) ٹیچر | (4) ڈاکٹر | (5) کوئی اور _____ |
|------------------|----------------|----------|-----------|--------------------|

والد کی تعلیم

|           |            |           |            |                 |
|-----------|------------|-----------|------------|-----------------|
| (1) میٹرک | (2) ایف اے | (3) بی اے | (4) ایم اے | (5) اس سے زیادہ |
|-----------|------------|-----------|------------|-----------------|

کام کی نوعیت

|               |                |                  |              |                    |
|---------------|----------------|------------------|--------------|--------------------|
| (1) بے روزگار | (2) برسرروزگار | (3) سرکاری نوکری | (4) پرائیویٹ | (5) کوئی اور _____ |
|---------------|----------------|------------------|--------------|--------------------|

خاندان میں کوئی اور اس بیماری کا شکار

خاندانی نظام

|                        |                             |
|------------------------|-----------------------------|
| (1) بیماری سے متاثر ہے | (2) بیماری سے متاثر نہیں ہے |
|------------------------|-----------------------------|

|            |             |
|------------|-------------|
| (1) مشترکہ | (2) انفرادی |
|------------|-------------|

**Appendix- G**  
**Cognitive Disengagement Syndrome-Parent Report**

**سوالنامہ 1**

براہ کرم اس جواب کو دائرہ لگائیں جو اس بات کی نشاندہی کرتا ہے کہ آپ کی بیٹی یا بیٹے نے پچھلے مہینے گھر اور کمیونٹی میں کتنی بار یہ رویہ ظاہر کیا ہے (اسکول کے رویہ کو مد نظر نہ رکھیں)۔

| بیانات                                                        | تقریباً کبھی نہیں یا مہینے میں ایک بار | تقریباً کبھی (بہت کم (بہتے میں ایک بار) | کبھی کبھار (بہتے میں کئی بار) | اکثر (دن میں ایک بار) | بہت زیادہ (دن میں کئی بار) | تقریباً ہمیشہ (دن میں کئی بار) |
|---------------------------------------------------------------|----------------------------------------|-----------------------------------------|-------------------------------|-----------------------|----------------------------|--------------------------------|
| 1 کام کرنے کا طریقہ کار سست ہے (مثلاً روزمرہ کی سرگرمیوں میں) | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |
| 2 خیالات کی دھند میں کھویا رہتا/کھوئی رہتی ہے                 | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |
| 3 خلاء میں گھورتا/گھورتی ہے                                   | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |
| 4 دن کے دوران اونگھتا یا سوتا/اونگھتی یا سوتی ہے              | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |
| 5 دن میں بھی خواب دیکھتا/دیکھتی ہے                            | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |
| 6 خیالات میں تسلسل نہیں رہتا                                  | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |
| 7 ہر کام میں سستی/کاہلی ظاہر کرتا/کرتی ہے                     | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |
| 8 اپنے خیالات میں کھویا رہتا/رہتی ہے                          | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |
| 9 بہت جلد تھک جاتا/جاتی ہے                                    | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |
| 10 بات کرتے ہوئے بھول جاتا/جاتی ہے کہ کیا کہنے لگا/لگی تھی    | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |
| 11 بہت جلد الجھاؤ کا شکار ہو جاتا/ہو جاتی ہے                  | 0                                      | 1                                       | 2                             | 3                     | 4                          | 5                              |

## Appendix- H

## Weiss Functional Impairment Rating Scale- Parent Report

## سوالنامہ 2

براہ کرم درج ذیل بیانات کو غور سے پڑھیں اور ان آپشن کے گرد دائرہ لگائیں جو آپ سمجھتے ہیں کہ آپ کے بچے کے مسائل کو بہترین طور پر بیان کرتے ہیں۔

| بیانات | کبھی نہیں یا بالکل نہیں | کبھی کبھار یا کچھ حد تک | اکثر یا کافی زیادہ | بہت اکثر یا بہت زیادہ | قابل اطلاق نہیں |
|--------|-------------------------|-------------------------|--------------------|-----------------------|-----------------|
| A      | خاندان                  |                         |                    |                       |                 |
| 1      | 0                       | 1                       | 2                  | 3                     | قابل اطلاق نہیں |
| 2      | 0                       | 1                       | 2                  | 3                     | قابل اطلاق نہیں |
| 3      | 0                       | 1                       | 2                  | 3                     | قابل اطلاق نہیں |
| 4      | 0                       | 1                       | 2                  | 3                     | قابل اطلاق نہیں |
| 5      | 0                       | 1                       | 2                  | 3                     | قابل اطلاق نہیں |
| 6      | 0                       | 1                       | 2                  | 3                     | قابل اطلاق نہیں |
| 7      | 0                       | 1                       | 2                  | 3                     | قابل اطلاق نہیں |
| 8      | 0                       | 1                       | 2                  | 3                     | قابل اطلاق نہیں |
| 9      | 0                       | 1                       | 2                  | 3                     | قابل اطلاق نہیں |

|    |                                                                                             |   |   |   |   |                    |
|----|---------------------------------------------------------------------------------------------|---|---|---|---|--------------------|
| 10 | خاندان کے لئے زیادہ اخراجات کا باعث<br>بننا/بنتی ہے                                         | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| B  | درسگاہ                                                                                      |   |   |   |   |                    |
|    | سیکھنا                                                                                      |   |   |   |   |                    |
| 1  | اسکول کے کاموں کو باقاعدگی سے کرنے<br>میں مشکل پیش آتی ہے                                   | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 2  | اسکول میں اضافی مدد کی ضرورت ہے                                                             | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 3  | رہنمائی (ٹیوشن) کی ضرورت پڑتی ہے                                                            | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 4  | اپنی صلاحیت کے مقابلے میں کم گریڈ<br>(نمبر) لینا /لینتی ہے                                  | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
|    | برتاؤ/ طرز عمل                                                                              |   |   |   |   |                    |
| 1  | کمرہ جماعت میں اساتذہ کے لئے مسائل<br>پیدا کرتا/کرتی ہے                                     | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 2  | اکڑ کلاس سے باہر نکال دیا جاتا/جاتی ہے یا<br>سزا کے طور پر روک (کام کرنے سے) دیا<br>جاتا ہے | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 3  | اسکول کے گراؤنڈ میں مشکلات کا سامنا<br>کرتا/کرتی ہے                                         | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 4  | اسکول کے دوران یا بعد میں اکڑ سزا کے طور<br>پر کمرے میں بند کر دیا جاتا/جاتی ہے             | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 5  | کبھی اسکول سے معطل یا نکالا گیا/گئی ہوں                                                     | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 6  | اکڑ اسکول سے دیر (لیٹ) ہوجانے کی وجہ<br>سے کلاسز چھوڑ دینا/دیتی ہے                          | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |

| زندگی کی مہارتیں   |   |   |   |   | C                                                                             |
|--------------------|---|---|---|---|-------------------------------------------------------------------------------|
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 1 ٹی وی، کمپیوٹر، یا ویڈیو گیمز کا بہت زیادہ استعمال کرتا/کرتی ہے             |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 2 صفائی کا خیال رکھتا/رکھتی ہے (دانت برش کرنا، بالوں کو سنوارنا، نہانا وغیرہ) |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 3 اسکول کے لئے تیار ہونے میں مشکل ہوتی ہے                                     |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 4 سونے کے لئے تیاری کرنے میں مشکل ہوتی ہے                                     |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 5 کھانے میں مسائل ہیں (نکتہ چینی کرنا، زیادہ کھانے والا، غیر صحت مند کھانا)   |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 6 نیند میں مشکلات کا سامنا ہے                                                 |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 7 چوٹ لگ جاتی ہے یا زخمی ہوجاتا/ہوجاتی ہے                                     |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 8 ورزش سے گریز کرتا/کرتی ہے                                                   |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 9 اس کو زیادہ طبی دیکھ بھال کی ضرورت ہوتی ہے                                  |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 10 دوائی کھانے، انجکشن لگوانے یا ڈاکٹر کے پاس لے کر جانے میں تنگ کرتا/کرتی ہے |
| بچے کا خود کا تصور |   |   |   |   | D                                                                             |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 1 میرا بچہ اپنے بارے میں کمتر محسوس کرتا/کرتی ہے                              |
| قابل اطلاق<br>نہیں | 3 | 2 | 1 | 0 | 2 میرا بچہ کسی چیز کو انجوائے نہیں کرتا/کرتی                                  |



|   |                                                                                                                    |   |   |   |   |                    |
|---|--------------------------------------------------------------------------------------------------------------------|---|---|---|---|--------------------|
| 3 | میرا بچہ اپنی زندگی سے خوش نہیں ہے                                                                                 | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| E | سماجی سرگرمیاں                                                                                                     |   |   |   |   |                    |
| 1 | دوسرے بچے اسے چھڑتے یا تنگ کرتے ہیں                                                                                | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 2 | دوسرے بچوں کو چھیڑنا یا تنگ کرنا/کرتی ہے                                                                           | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 3 | دوسرے بچوں کے ساتھ گھلنے ملنے میں مسائل پیش آتے ہیں                                                                | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 4 | غیرنصابی سرگرمیوں میں حصہ لینے میں مشکل ہوتی ہے (کھیل، موسیقی، کلب وغیرہ)                                          | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 5 | نئے دوست بنانے میں مشکل ہوتی ہے                                                                                    | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 6 | دوستی برقرار رکھنے میں مشکل ہوتی ہے                                                                                | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 7 | تقریبات میں شامل ہونے میں مشکل ہوتی ہے (شریک نہیں ہوتا/ہوتی، دوسروں سے اجتناب کرنا/کرتی ہے، بد تمیزی کرنا/کرتی ہے) | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| F | خطرناک سرگرمیاں                                                                                                    |   |   |   |   |                    |
| 1 | دوسرے بچوں کے بہکاوے میں آجاتا/آجاتی ہے (بم عمر کے دباؤ)                                                           | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 2 | چیزوں کو توڑنا یا نقصان پہنچاتا/پہنچاتی ہے                                                                         | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 3 | دوسروں کو زخمی کرتا/کرتی ہے                                                                                        | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |
| 4 | مطلبی یا نامناسب باتیں کرتا/کرتی ہے                                                                                | 0 | 1 | 2 | 3 | قابل اطلاق<br>نہیں |

## Appendix- I

### سوالنامہ 3

براہ کرم نیچے دیے گئے بیانات کو پڑھیں اور نہیں، کسی حد تک، یا ہاں پر دائرہ لگا کے بتائیں کہ آپ کا بچہ اپنی عمر کے دیگر بچوں سے مختلف نظر آتا ہے۔

| بیانات                                                                                                                           | نہیں | کسی حد تک | ہاں |
|----------------------------------------------------------------------------------------------------------------------------------|------|-----------|-----|
| 1 روایتی خیالات کا حامل ہے یا بہت زیادہ سمجدار ہے                                                                                | 0    | 1         | 2   |
| 2 دوسرے بچے اسے "سنکی پروفیسر" سمجھتے ہیں                                                                                        | 0    | 1         | 2   |
| 3 ایسی خیالی دنیا میں مگن رہتا ہے جس میں اس کی بہت محدود اور اپنی الگ ہی زبانی دلچسپیاں ہیں                                      | 0    | 1         | 2   |
| 4 مخصوص موضوعات پر حقائق جمع کرتا ہے (اچھی یادداشت ہے) لیکن اصل معنی نہیں سمجھتا/ سمجھتی ہے                                      | 0    | 1         | 2   |
| 5 باتوں کو صرف لفظی معنی میں سمجھتا ہے، اشارے یا مبہم (غیر واضح) باتیں نہیں سمجھتا/ سمجھتی ہے                                    | 0    | 1         | 2   |
| 6 غیر روایتی طریقے سے بات چیت کرتا/کرتی ہے جیسا کہ رسمی، گھبرایا ہوا یا روبوٹ جیسی گفتگو کرتا/کرتی ہے                            | 0    | 1         | 2   |
| 7 خود ساختہ (اپنے بنائے ہوئے) الفاظ اور جملے ایجاد کرتا/کرتی ہے                                                                  | 0    | 1         | 2   |
| 8 آواز اور بول چال مختلف ہے                                                                                                      | 0    | 1         | 2   |
| 9 غیر ارادی (عجیب) طور پر آوازیں نکالتا/ نکالتی ہے، گلا صاف کرتا/کرتی ہے، گھورتا/گھورتی ہے، روتا/ روتی ہے یا چیختا/ چیختی ہے     | 0    | 1         | 2   |
| 10 کچھ چیزوں میں حیرت انگیز طور پر اچھا/ اچھی اور کچھ میں حیرت انگیز طور پر کمزور ہے                                             | 0    | 1         | 2   |
| 11 لینگو یج کو ٹھیک طریقے سے استعمال کر سکتا ہے لیکن سماجی مواقع یا مختلف سننے والوں کی ضروریات کے مطابق ترتیب نہیں دے سکتا/سکتی | 0    | 1         | 2   |
| 12 ہمدردی کی کمی ہے                                                                                                              | 0    | 1         | 2   |

|   |   |   |                                                                                                                     |
|---|---|---|---------------------------------------------------------------------------------------------------------------------|
| 2 | 1 | 0 | 13 بے وقوفانہ اور شرمندہ کرنے والے تبصرے کرتا/کرتی ہے                                                               |
| 2 | 1 | 0 | 14 دوسروں سے نظریں ملانے کا انداز بہت مختلف ہے                                                                      |
| 2 | 1 | 0 | 15 دوسروں سے گھلنا ملنا چاہتا/لیکن ہم عمروں کے ساتھ تعلقات بنانے میں ناکام رہتا/رہتی ہے                             |
| 2 | 1 | 0 | 16 صرف اپنی شرائط پر دوسروں سے گھلنا ملتا ہے                                                                        |
| 2 | 1 | 0 | 17 بہترین دوست کی کمی ہے                                                                                            |
| 2 | 1 | 0 | 18 عام فہمی (نارمل سمجھ بوجھ) کی کمی ہے                                                                             |
| 2 | 1 | 0 | 19 کھیل میں کمزور ہے ٹیم کے ساتھ مل کر کھیلنے کی کوشش نہیں کرتا بلکہ صرف اپنا اکیلا سکور بنانے کی کوشش کرتا/کرتی ہے |
| 2 | 1 | 0 | 20 اس کی حرکتیں یا اشارے غیر متوازن، بے مقصد، عجیب اور غیر منظم ہیں                                                 |
| 2 | 1 | 0 | 21 چہرے یا جسم کی غیر ارادی حرکات ہوتی ہیں                                                                          |
| 2 | 1 | 0 | 22 کچھ کام یا خیالات کو بار بار دہراتا ہے، جس سے اس کو اپنے باقی روزمرہ کے کام مکمل کرنا مشکل ہو جاتا ہے            |
| 2 | 1 | 0 | 23 کچھ ایسے خاص معمولات ہیں جن کو تبدیل نہ کرنے پر اصرار کرتا/کرتی ہے                                               |
| 2 | 1 | 0 | 24 کچھ اشیاء سے عجیب سی وابستگی (لگاؤ) ظاہر کرتا/کرتی ہے                                                            |
| 2 | 1 | 0 | 25 دوسرے بچے اس کو تنگ کرتے ہیں۔                                                                                    |
| 2 | 1 | 0 | 26 چہرے کے تاثرات کافی حد تک عجیب /غیر معمولی ہوتے ہیں                                                              |
| 2 | 1 | 0 | 27 جسمانی حالت نمایاں طور پر غیر معمولی ہیں                                                                         |

## Appendix- J

### Parenting Style – Four Factor Questionnaire

#### سوالنامہ 4

براہ کرم درج ذیل بیانات کو غور سے پڑھیں اور مناسب نمبر پر دائرہ لگا کر اپنا جواب دیں۔

| بیانات                                                                                                                                                         | کبھی نہیں | کبھی کھار | کبھی کبھی | زیادہ تر وقت | ہر وقت |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|--------------|--------|
| 1 میں چاہتا/چاہتی ہوں کہ میرا بچہ میری ہدایات پر عمل کرے کیونکہ فیصلہ کرنے کا اختیار صرف میرے پاس ہے کہ کیا کرنا ہے اور کیا نہیں کرنا۔                         | 1         | 2         | 3         | 4            | 5      |
| 2 میں اپنے بچے کے لئے دوست، فلسفی اور رہنما بننا چاہتا/چاہتی ہوں۔                                                                                              | 1         | 2         | 3         | 4            | 5      |
| 3 میں اپنے بچے کے ساتھ بہت نرم ہوں، اس لیے میں اسے مناسب وقت پر سزا دے کر درست نہیں کر سکتا/سکتی                                                               | 1         | 2         | 3         | 4            | 5      |
| 4 میرے بچے پر میرا کوئی مطالبہ یا کنٹرول نہیں ہے اور میں اسے مکمل آزادی دیتا/دیتی ہوں                                                                          | 1         | 2         | 3         | 4            | 5      |
| 5 میں اپنے بچے کی کسی بھی بدتمیزی کو برداشت کرنے یا کسی قسم کی غلطیوں میں اس کے بہانوں کو سننے کا صبر نہیں رکھتا/رکھتی                                         | 1         | 2         | 3         | 4            | 5      |
| 6 میں کسی بھی صورتحال میں اپنے بچے کے جذبات کو سمجھتا/سمجھتی ہوں اور جب بھی میں اس کے لئے کچھ خریدتا/خریدتی ہوں تو ہمیشہ اس کی رائے لینے کی کوشش کرتا/کرتی ہوں | 1         | 2         | 3         | 4            | 5      |
| 7 جب کبھی میرا بچہ کم نمبر لیتا ہے ، تو میں اسے کوئی سزا نہیں دیتا/دیتی بلکہ مجھے لگتا ہے کہ وہ اگلی بار بہتر ہو جائے گا                                       | 1         | 2         | 3         | 4            | 5      |

|   |   |   |   |   |                                                                                                                                                                         |    |
|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 5 | 4 | 3 | 2 | 1 | جیسا کہ میں بہت اداس اور افسردہ ہوں، میں اپنے بچے کے ساتھ زیادہ دیکھ بھال اور گہرا جذباتی تعلق نہیں دکھا سکتا/سکتی                                                      | 8  |
| 5 | 4 | 3 | 2 | 1 | میں سختی سے یقین رکھتا/رکھتی ہوں کہ میرے بچے کا مستقبل میرے ہاتھ میں ہے اور اسی لیے میرے بچے کے لیے ایک سخت نظام الاوقات (ٹائم ٹیبل) ہے جس پر اسے عمل کرنا ہے           | 9  |
| 5 | 4 | 3 | 2 | 1 | خاندان کے اہم فیصلے ایک ساتھ کیے جاتے ہیں اور میں اپنے بچے کو میرے ساتھ سب کچھ شیئر کرنے کی پوری آزادی دیتا/دیتی ہوں                                                    | 10 |
| 5 | 4 | 3 | 2 | 1 | میں اپنے بچے کو میری اطاعت کرنے یا اچھا برتاؤ کرنے کے لئے قیمتی انعام دیتا/دیتی ہوں                                                                                     | 11 |
| 5 | 4 | 3 | 2 | 1 | جیسا کہ میں اپنے گھریلو اور دفتری کاموں میں بہت مصروف ہوں، میں اپنے بچے کی پڑھائی میں دلچسپی لینے یا اس کی ضروریات اور خواہشات کو سننے کے لئے کم وقت نکال پاتا/پاتی ہوں | 12 |
| 5 | 4 | 3 | 2 | 1 | میں اپنے بچے کے رویے کے حوالے سے سخت اور واضح توقعات رکھتا/رکھتی ہوں اور اس کے مستقبل کے حوالے سے اس کی پسندیدگی کا خیال نہیں کرتا/کرتی                                 | 13 |
| 5 | 4 | 3 | 2 | 1 | جیسا کہ میں اپنے بچے کی صلاحیت اور کمزوری کو سمجھتا/سمجھتی ہوں، میں اس کے لیے کچھ مناسب اصول بناتا/بناتی ہوں اور جب ضروری ہو تو دوستانہ مشورہ دیتا/دیتی ہوں             | 14 |
| 5 | 4 | 3 | 2 | 1 | اگرچہ میرے پاس اپنے بچے کے مستقبل کے بارے میں واضح توقعات اور منصوبہ بندی ہے لیکن میں اپنی                                                                              | 15 |

|   |   |   |   |   |                                                                                                                                                      |  |
|---|---|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|   |   |   |   |   | نرمی کی وجہ سے اس پرسختی سے عمل نہیں کر سکتا/سکتی                                                                                                    |  |
| 5 | 4 | 3 | 2 | 1 | 16 میں خود کافی تناؤ اور دباؤ کا شکار ہوں، اس لئے میں اپنے بچے کی فلاح و بہبود کا خیال نہیں رکھ سکتا/سکتی                                            |  |
| 5 | 4 | 3 | 2 | 1 | 17 میں عام طور پر اپنے بچے کو مشورہ دینے کی بجائے جسمانی سزا دینا پسند کرتا/کرتی ہوں کیونکہ مجھے لگتا ہے کہ وہ مشورہ نہیں سنے/مانے گا۔               |  |
| 5 | 4 | 3 | 2 | 1 | 18 میں اپنے بچے کے مستقبل کیئرئر کے لئے اسے مجبور نہیں کروں گا/گی بلکہ میں اسے ایک حقیقت پسندانہ مقصد حاصل کرنے میں مدد کرتا/کرتی ہوں                |  |
| 5 | 4 | 3 | 2 | 1 | 19 چونکہ میرے والدین نے مجھے سخت نظم و ضبط سے پالا ہے اس لیے میں اپنے بچے کے ساتھ بہت نرم ہوں                                                        |  |
| 5 | 4 | 3 | 2 | 1 | 20 میں عام طور پر اپنی پسند اور خواہشات کو زیادہ اہمیت دیتا/دیتی ہوں لیکن اپنے بچے کی ضروریات یا بدتمیزیوں کو زیادہ اہمیت نہیں دیتا/دیتی             |  |
| 5 | 4 | 3 | 2 | 1 | 21 میں یقین رکھتا/رکھتی ہوں کہ صرف سزا کے ذریعے ہی بچے کو درست کیا جا سکتا ہے اور میں اپنے بچے کو کسی طرح کی بھی مالی آزادی دینا پسند نہیں کرتا/کرتی |  |
| 5 | 4 | 3 | 2 | 1 | 22 جب بھی میرا بچہ دیے گئے مقررہ وقت پر عمل کرنے میں ناکام ہوتا ہے، میں محبت اور پیار کے ساتھ اس کے نتائج کی یاد دہانی کراتا/کراتی ہوں               |  |
| 5 | 4 | 3 | 2 | 1 | 23 میں اپنے بچے کے ساتھ بہت پیار کرنے والا والدین بننا پسند کرتا/کرتی ہوں اور میں اپنے بچے کی غلط تربیت کی ذمہ داری بھی لیتا/لیتی ہوں                |  |

|    |                                                                                                                                                                             |   |   |   |   |   |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 24 | چونکہ میں مصروف ہوں اور اپنے بچے کی دیکھ بھال کے لئے کم وقت نکال پاتا/پاتی ہوں اس لیے وہ اپنے فیصلے اپنے طریقے سے کرنے کے لیے آزاد ہے                                       | 1 | 2 | 3 | 4 | 5 |
| 25 | میرے بچے کو دی جانے والی سزا میرے موڈ پر منحصر ہوتی ہے                                                                                                                      | 1 | 2 | 3 | 4 | 5 |
| 26 | میرا بچہ کچھ غلط کرنے کے بعد صرف سزا کے خوف سے مجھ سے بات کرتا ہے۔                                                                                                          | 1 | 2 | 3 | 4 | 5 |
| 27 | میں ہمیشہ اپنے بچے کو سزا کی دھمکی دیتا/دیتی ہوں لیکن اپنی نرمی کی وجہ سے اسے عملی طور پر نہیں کرتا/کرتی                                                                    | 1 | 2 | 3 | 4 | 5 |
| 28 | جیسا کہ میں اپنی زندگی میں شدید مسائل کا شکار ہوں اس لیے اپنے بچے کی بدتمیزی کو نذر انداز کرتا/کرتی ہوں اور مجھے گھر سے باہر اس کی سرگرمیوں کے بارے میں کوئی اندازہ نہیں ہے | 1 | 2 | 3 | 4 | 5 |
| 29 | جب بھی میرا بچہ نافرمانی ظاہر کرتا ہے، میں غصے کے ساتھ اسے ڈانٹتا/ڈانٹتی اور تنقید کرتا/کرتی ہوں                                                                            | 1 | 2 | 3 | 4 | 5 |
| 30 | اگرچہ میں مصروف ہوتا/ہوتی ہوں لیکن اپنے بچے کے اسکول جانے اور اساتذہ سے ملنے کے لئے اتنا وقت نکال سکتا/سکتی ہوں کہ اس کی کارکردگی (پروگریس) کے بارے میں جان سکوں۔           | 1 | 2 | 3 | 4 | 5 |
| 31 | چونکہ میں اپنے بچے کے ساتھ زیادہ محبت اور ہمدردی ظاہر کرتا/کرتی ہوں اس لیے اس میں نظم و ضبط بالکل نہیں ہے                                                                   | 1 | 2 | 3 | 4 | 5 |
| 32 | میں کبھی اپنے بچے کو نہیں بتاتا/چاہتا/چاہتی کہ میں کہاں جا رہا/رہی ہوں یا میں کیوں دیر سے آیا/آئی                                                                           | 1 | 2 | 3 | 4 | 5 |