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**Relationship Between Parental
Alexithymia, Behavioral
Problems and Emotion
Regulation among Children with
Autism Spectrum Disorders**

by

Esther Joy

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

in the

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by

Esther Joy

(MSP231016)

THESIS EXAMINING COMMITTEE

S. No.	Examiner	Name	Organization
(a)	External Examiner	Dr. Sumara Masood ul hassan	NUST, Islamabad
(b)	Internal Examiner	Ms. Irum Noureen	CUST, Islamabad

Dr. Ishrat Yousaf

Thesis Supervisor

May, 2026

Dr. Sabahat Haqqani

Head

Department of Psychology

May, 2026

Dr. Arshad Hassan

Dean

Faculty of Management & Social Sci.

May, 2026

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(Esther Joy)

Registration No: MSP231016

Abstract

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder, which is defined by deficits in social communication and repetitive behavior patterns that are commonly accompanied by problems in emotion regulation and behavioral problems that put significant pressure on family systems. The study aimed to examine the correlation between parental alexithymia, behavioral problems and emotion dysregulation in ASD children. It also investigated whether emotion regulation mediates the association between parental alexithymia and behavioral problems, as well as the gender differences in parental alexithymia. A cross-sectional correlational design was utilized. The sample included 264 parents (132 mothers and 132 fathers) of children with ASD recruited from special education institutes in Rawalpindi and Islamabad. The Toronto Alexithymia Scale (TAS-20), Emotion Regulation Checklist (ERC), and Strengths and Difficulties Questionnaire (SDQ) were used as standardized measurements. Non-parametric analyses were used since normality assumptions were violated. The results of Spearman's rank-order correlation revealed no significant relationships between parental alexithymia, emotion management, and behavioral disorders. The association between parental alexithymia and behavioral problems was not mediated by emotion regulation, according to the results of the mediation analysis. However, Mann-Whitney U test findings revealed substantial gender disparities, with mothers reporting higher levels of alexithymia compared to fathers. In conclusion, the results indicate that alexithymia in parents exists but has no direct impact on the emotional regulation and behavior problems in children with ASD. This evidence identifies emotional and behavioral challenges in ASD as multifactorial and indicates that the research should focus on wider child-specific, contextual, and family-system factors in future studies.

Keywords: Parental Alexithymia, Autism Spectrum Disorder (ASD), Emotion Regulation, Behavioral Problems, Gender Differences.

Contents

Author's Declaration	iii
Plagiarism Undertaking	iv
Acknowledgement	v
Abstract	vi
List of Figures	x
List of Tables	xi
Abbreviations	xii
1 Introduction	1
1.1 Gap Analysis	6
1.2 Problem Statement	7
2 Literature Review	11
2.1 Parental Alexithymia	12
2.2 Emotion Regulation in Children With ASD	14
2.3 Behavioral Problems in Children with ASD	15
2.4 Relationship Between Parental Alexithymia, Emotion Regulation and Behavioral Problems	16
2.5 Theoretical Framework	17
2.5.1 Attachment Theory	17
2.5.2 Conceptual Model	20
2.6 Rationale	20
2.7 Objectives	22
2.8 Hypotheses	23
3 Research Methodology	24
3.1 Research Design	24
3.1.1 Sample	24
3.1.2 Time Horizon, Study Setting and Data Collection Procedure	25
3.1.3 Demographic Information Sheet	25

3.1.4	Sample Characteristics	26
3.1.5	Inclusion Criteria	26
3.1.6	Exclusion criteria	26
3.2	Instruments	27
3.2.1	Toronto Alexithymia Scale (TAS-20)	27
3.2.2	Strength and Difficulties Questionnaire	27
3.2.3	Emotional Regulation Checklist	28
3.3	Ethical Consideration	28
3.4	Data Analysis	29
4	Results	32
4.1	Summary of Findings	41
5	Discussion and Conclusion	43
5.1	Integration and Interpretation of Findings	44
5.1.1	Parental Alexithymia and Children's Emotion Regulation	44
5.1.2	Parental Alexithymia and Behavioral Problems in children with ASD	46
5.1.3	Emotion Regulation and Behavioral Problems in Children with ASD	48
5.1.4	Gender Differences Among Alexithymic Parents	49
5.2	Summary of Interpretations	51
5.3	Implications	52
5.3.1	Clinical Implications	52
5.3.2	Educational Implications	53
5.3.3	Implications on a Community Level	53
5.3.4	Consequences of Gender Differences	55
5.4	Limitations	55
5.4.1	Use of Self-Report Measures	56
5.4.2	Cross-Sectional Research Design	57
5.4.3	Limited Scope of Predictors	58
5.4.4	Absence of Multi-Informant and Observational Data	58
5.4.5	The Sampling and Cultural Context of the Study	59
5.4.6	Interventions and Exposure to ASD Severity	60
5.5	Recommendations	60
5.5.1	Recommendations for Future Research	60
5.5.2	Clinical and Therapeutic Recommendations	61
5.5.3	Educational Recommendations	62
5.5.4	Community-Based Recommendations	62
5.5.5	Policy and Practice Recommendations	63
5.5.6	Research-Practice Integration	63
5.6	Conclusion	63
	Bibliography	66

Appendix A Informed Consent	75
Appendix B Demographic Information Sheet	76
Appendix C Toronto Alexithymia Scale (TAS)	78
Appendix D Strengths and Difficulties Questionnaire (SDQ)	80
Appendix E Emotion Regulation Checklist (ERC)	83
Appendix F	88
Appendix G	89

List of Figures

2.1	Conceptual Model of the Study	20
4.1	Normality distribution of Toronto alexithymia scale (N= 264) . . .	35
4.2	Normality distribution for strength and difficulties questionnaire (N=264)	36
4.3	Normality distribution for emotion regulation checklist (N=246) . .	36
4.4	Path diagram illustrating emotion regulation as a mediator in the relationship between parental alexithymia and behavioral problems in children with ASD	39

List of Tables

4.1	Frequencies and Percentages of the Demographic Variables of Study Participants (N = 264)	32
4.2	Chronbach's Alpha Reliability Coefficients of parental alexithymia, Emotion Regulation and behavioral problems in children with ASD. (n=264)	34
4.3	Descriptive statistics of parental alexithymia, behavioral problems and emotion regulation in children with ASD (n=264)	34
4.4	Spearman rho correlations between parental alexithymia, and behavioral problems in children with ASD (N = 264)	37
4.5	Spearman rho correlations between parental alexithymia, and behavioral problems in children with ASD (N = 264)	38
4.6	Spearman rho correlations between emotion regulation and behavioral problems in children with ASD (N = 264)	38
4.7	Mediation Analysis Examining Emotion Regulation as a Mediator Between Parental Alexithymia and Behavioral Problems (N = 264)	39
4.8	Mann-Whitney U Test Showing Gender Differences in Parental Alexithymia (N = 264)	40

Abbreviations

ASD	Autism spectrum disorder
B.P	Behavioral problems
E.R	Emotion regulation
ERC	Emotion regulation checklist
P.A	Parental alexithymia
SDQ	Strength and difficulties questionnaire
TAS	Toronto alexithymia scale

Chapter 1

Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition with the enduring lack of social communication and interaction, as well as limited, disruptive behavioral, interests and activity patterns ([American Psychiatric Association, 2022](#)). These symptoms are usually developed at early childhood and greatly affect the functioning of the individual in the areas of social, academic as well as family. Besides typical diagnostic characteristics, children with ASD often have other emotional and behavioural problems such as aggression, irritability, tantrums, self-injury, anxiety and withdrawal ([Davidovitch et al., 2020](#); [Ch'ng et al., 2015](#)). According to [Davidovitch et al. \(2020\)](#), children and adolescents with ASD are four times more likely to struggle with emotion regulation than their neurotypical counterparts, which contributes to anxiety, sadness, and behavioral outbursts.

The idea that emotion regulation (ER) refers to the mechanisms that individuals use to track, assess, and adjust emotion responses to attain purposes ([Gross, 2015](#)) has come to fore as being at the core of the idea of behavioral problems in ASD. It has been found that children and adolescents with ASD have a much higher likelihood of having problems with emotion regulation than their neurotypical counterparts, and some estimates have shown that they are four times more likely to display emotion dysregulation ([Davidovitch et al., 2020](#)). Dysregulations of emotion in ASD were significantly related to both externalizing (e.g., aggression, non-compliance) and internalizing symptoms (e.g., anxiety, depression), and it is

possible to suggest that ER deficits are a transdiagnostic risk factor of broader psychopathology ([Mazefsky et al., 2013](#); [Ch'ng et al., 2015](#)).

Globally it has been estimated that approximately 1 in 100 children has autism. This estimate presents an average figure, and the prevalence may vary across studies ([Giannotti et al., 2020](#)). According to the Autism Society of Pakistan, the epidemiological data on ASD remains limited. The statistics from South Asia estimated that there were approximately 350,000 children with autism in Pakistan ([Noor et al., 2021](#)). The impact of parental alexithymia is becoming more widely recognized as one of the many variables affecting the growth and well-being of autistic children. The inability to recognize and communicate emotions, or alexithymia, is one such trait that may have a great influence on parents ability to control their emotions as well as the way their children behave ([Szatmari et al., 2008](#)).

Alexithymia is derived from the Greek words "a" (lack), "lexis" (word), and "thymos" (feeling). It literally means "no words for emotion." [Goerlich and Votinov \(2023\)](#) define it as a subclinical condition characterized by a significant difficulty in detecting, articulating, and processing one's own emotions, and others, as well as differentiating these feelings from body sensations associated with emotional arousal. Alexithymia is a psychological condition characterized by problems detecting, understanding, and expressing emotions, which frequently results in decreased emotional awareness ([Noor et al., 2021](#)). Individuals with alexithymia have difficulty distinguishing between emotional experiences and physiological sensations, which can affect emotional management and social engagement. Alexithymia, which was first detected in individuals with psychosomatic diseases, is now more common in the general population, with estimates putting the frequency at around 10% ([Preece and Gross, 2023](#)).

This condition is not categorized as a mental disease by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5 TR), but rather as a personality feature that can coexist with a variety of psychiatric and neurodevelopmental problems, including depression, anxiety, and ASD ([American Psychiatric Association, 2022](#); [Taylor et al., 1999](#); [Leonardi et al., 2020](#)). Individuals with alexithymia frequently

demonstrate low emotional awareness, poor empathy, and problem with social interactions, which can make it difficult to build and sustain relationships.

Parental alexithymia is defined by parents' inability to identify, describe, and express their own feelings, as well as recognize and respond to their children's emotional needs. This can result in decreased emotional availability, restricted empathy, and difficulty creating a supportive emotional environment (Costa et al., 2019). (Lin et al., 2023), has shown that parents with alexithymia think externally, focused on practical concerns rather than emotional connection, which might damage parent-child attachment.

Empirical studies suggest that parents of children with ASD who have higher levels of alexithymia interact with their children less than parents of normally developing children. Costa et al. (2019) discovered that this reduced interaction was more significantly related with the child's alexithymia than with the ASD diagnosis itself, indicating that alexithymia may play an important part in the emotional problems experienced by these families. This decreased engagement might hinder the child's emotional development, particularly in areas such as emotion regulation and interpersonal skills (Bird and Cook, 2013; Costa et al., 2019; Giannotti et al., 2020; Kinnaird et al., 2019).

Parental alexithymia has been linked to lower family cohesiveness, higher parental burnout, and difficulties in parent-child relationships, all of which may have an indirect impact on the emotional and behavioral development of children with ASD (Costa et al., 2019; Lin et al., 2023). Parents with alexithymia may struggle to detect and respond to their child's emotional cues, aggravating the child's emotional and behavioral problems. Furthermore, parental burnout, which is associated with alexithymia, has been demonstrated to lead to unfavorable child outcomes, such as higher behavioral problems caused by probable neglect or strained family interactions (Lin et al., 2023). This highlights the importance of investigating how parental emotional processing influences the developmental trajectories of children with ASD.

Two psychological characteristics have emerged as particularly important in understanding how parents deal with the pressures of raising a child with ASD: parental

alexithymia and emotion regulation. Alexithymia, is widespread among parents of children with ASD and has been linked to higher stress levels ([Alegre, 2011](#)). Parents with alexithymia may struggle to appropriately interpret their own and their children emotions, resulting in misunderstandings and unsuccessful parenting practices ([Scarzello, 2023](#)). This emotional detachment could prevent parents' ability to establish an emotionally supportive environment, which is critical for children self-regulation development ([Costa et al., 2019](#)).

Emotion regulation refers to the ability to moderate one's emotional responses, is another important aspect of parenting. Effective emotion regulation skills are crucial for parents of children with ASD to manage the daily difficulties associated with their child's challenging behaviors ([Pottie and Ingram, 2008](#)). Studies have shown that, individual with alexithymia have difficulty regulating their emotions, which can exacerbate parenting stress and lead to bad interactions with their children ([Davodi-Boroujerd et al., 2022](#)). This study investigates how parental alexithymia leads to emotional regulation and behavioral problems in children with ASD.

Children with Autism Spectrum Disorder (ASD) exhibit core challenges in social communication and present with restricted, repetitive patterns of behavior ([American Psychiatric Association, 2022](#)). A significant and clinically impactful co-occurring feature is difficulty with emotion regulation (ER) – the ability to monitor, evaluate, and modify emotional reactions ([Thompson, 1994](#); [Bird and Cook, 2013](#)). These ER deficits are strongly linked to the high prevalence of behavioural problems (e.g., aggression, self-injury, tantrums, and non-compliance) ([Ch'ng et al., 2015](#)).

Emotion regulation has been considered a major mediating mechanism that connects parental emotional traits to child behavioral problems. Parental alexithymia, is linked to decreased emotional awareness and diminished capacity for adaptive emotional response, ([Goerlich and Votinov, 2023](#)). These limitations undermine parent's capacity to engage in successful emotion socialization, which includes emotional modeling, validation, and coaching of their children's emotions. According to emotion socialization frameworks, children's emotion management skills develop primarily through repeated encounters with caregivers, particularly through

parents' responsive and supportive responses to their emotional manifestations (Morris et al., 2007). Empirical research suggests that greater levels of parental alexithymia are linked to diminished parental emotional competence and less supportive parenting practices, which predict lower emotion regulation in children (Alegre, 2011; Mirinezhad et al., 2025). These findings indicate that children of alexithymic parents may develop fewer adaptive regulation systems for dealing with emotional arousal.

Deficits in emotion regulation have been consistently linked to both externalizing and internalizing behavioral disorders across developmental stages. Children with weak regulating capacities are more likely to engage in aggressive, impulsive, and oppositional behaviors, as well as anxiety and emotional withdrawal (Gross, 2015). Recent studies have shown that children's emotional functioning can statistically mediate the relationship between parental emotional deficits and child behavioral or stress-related outcomes, providing indirect empirical support for an emotion regulation-based mediation model (Cerniglia, 2024; Mirinezhad et al., 2025). Behavioral problems are generally described as disruptive, maladaptive, or socially unacceptable behaviors that interfere with a child's everyday functioning, relationships, and learning. Externalizing behaviors (e.g., aggressiveness, hyperactivity, oppositional behavior) and internalizing behaviors (e.g., withdrawal, anxiety, emotional problem) may both exist. Behavioral problems are deemed clinically severe when they continue over time, occur in several contexts, and hinder social, academic, or familial functioning (American Psychiatric Association, 2022). Children with ASD frequently experience behavioral problems, including non-compliance, violence, self-harm, and tantrums. These behaviors, which parents may find difficult to control, are frequently associated with a child struggles with social interaction, communication, and sensory processing (Priego-Ojeda and Rusu, 2023).

Studies have indicated the possibility of recurring association between parental alexithymia and behavioral problems in children with ASD. Elevated alexithymia can make it difficult for parents to comprehend and relate to the emotional experiences of their children, which can result in miscommunication and inadequate parenting techniques. This can thus lead to a rise in behavioral problems in the

child and a stressful environment that worsens the parent's capacity to control their emotions ([Maskey et al., 2013](#)).

1.1 Gap Analysis

While there is a growing amount of literature on alexithymia in individuals with ASD and its influence on their emotional and social functioning, research on the significance of parental alexithymia in the context of child behavioral outcomes is lacking. Existing research has mostly focused on child alexithymia, which has been linked to poor parent-child relations and impaired emotion regulation in children with ASD. For instance, [Costa et al. \(2019\)](#) found that children's alexithymia, rather than their ASD diagnosis, has a substantial impact on the quality of parent-child interactions and emotional reactivity. However, little emphasis has been made to how parents' alexithymic qualities influence their children's emotion regulation and behavioral problem. Parental alexithymia has frequently been studied in connection to family functioning or parental stress, with results indicating worse family cohesiveness and increased burnout. However, there has been limited number of studies relating parental alexithymia to particular child outcomes, such as the frequency or severity of behavioral problems in children with ASD. This gap emphasizes the necessity for a thorough examination into how parental alexithymia and emotion regulation practices impact the behavioral problems seen in children with ASD.

Furthermore, while some studies have investigated parental variables such as stress or attachment patterns in ASD households, they frequently fail to identify the precise contributions of alexithymia to child outcomes ([Szatmari et al., 2008](#)). [Costa et al. \(2019\)](#) revealed no significant difference in alexithymia levels between parents of children with ASD and those with developmental delays or TD children, but it did find that ASD independently predicted disturbed parent-child relationships. This shows that the relationship between parental alexithymia and child behavioral problems were complicated and affected by other variables, such as family dynamics or parental exhaustion, warranting additional investigation. The

absence of concrete data on the processes by which parental alexithymia influences child emotion regulation and behavior is a significant gap in the research.

In addition to the gaps discussed above, an observable fact is the lack of empirical studies found in Pakistan that investigate the combined impact of parental alexithymia, emotion regulation, and behavioral problems. Existing studies have focused on parental stress, and parenting style in relation to alexithymia ([Zainab et al., 2023](#); [Khan and Shabbir, 2019](#)).

1.2 Problem Statement

Parental alexithymia, characterized by difficulties in emotion regulation and expression, may impair parents' ability to manage their own emotions effectively, thereby reducing their ability to model and encourage adaptive emotional regulation in their children. Consequently, this may exacerbate behavioral problems in children with ASD, who already struggle to manage their emotions effectively. [Priego-Ojeda and Rusu \(2023\)](#), has shown that parents with alexithymia think externally, focused on practical concerns rather than emotional connection, which might damage parent-child attachment. Elevated alexithymia can make it difficult for parents to comprehend and relate to the emotional experiences of their children, which can result in miscommunication and inadequate parenting techniques. This can thus lead to a rise in behavioral problems in children with ASD and a stressful environment that worsens the parent's capacity to control their emotions ([Maskey et al., 2013](#)).

The typical features of Autism Spectrum Disorder (ASD) are not only impairments in social communication and limited and repeated behaviors but also serious difficulties in emotionally and behaviorally regulated conditions ([American Psychiatric Association, 2022](#); [Mazefsky et al., 2013](#)). Behavioral issues, including aggression, lack of compliance, tantrums, self-harm, anxiety, and emotional withdrawal, have great rates of occurrence in children with ASD and play a significant role in functional impairment and poor quality of life ([Ch'ng et al., 2015](#)).

Such behavioral expressions are usually strongly correlated with emotion regulation deficits, which have been characterized as a key process involved in both internalizing and externalizing problems in such population (Gross, 2015; Mazefsky et al., 2013). Whereas much attention has been paid to child-level vulnerabilities, not much attention has been paid to parental emotional traits that can predetermine such outcomes. Raising a child with ASD is characterized by a high level of stress, emotional exhaustion, and mental load in contrast with raising a child that develops normally (Hayes and Watson, 2013; Karst and Van Hecke, 2012). In this respect, the emotional functioning of parents is especially important. Alexithymia, which is defined as inability to identify, describe and process feelings (Taylor et al., 1999), could also lead to the fact that parents will not be able to control their emotions, as well as in the context of showing sensitiveness to the feelings of their child. The studies have shown that alexithymia belongs to the ineffective emotion regulation strategies, emotional suppression, and a lack of empathic responsiveness. As a result, higher alexithymic parents might not be able to demonstrate adaptive emotional coping behaviors to their children, which could add to maladaptive behavioral consequences.

Emotion socialization theories underscore that children develop emotional competencies mainly through socialization processes with caregivers, especially through parental model, parental validation and parental coaching of emotions (Eisenberg et al., 1998; Morris et al., 2007). Children may also experience inconsistent or invalidating reactions to emotional displays when parents have weaknesses in emotional awareness or regulation and this can inhibit the growth of adaptive emotion regulation abilities (Alegre, 2011). The alexithymic nature of parents can also complicate the ability to regulate and control behaviors in children with ASD, who also already have weaknesses in emotional processing.

The empirical evidence indicates that child behavioral problems are associated to parental emotional dysregulation at all development stages (Crandall et al., 2015). Furthermore, the mediation of the parental stress and child externalizing behaviors has been demonstrated by the parental emotion regulation (Morelen et al., 2016). Nevertheless, studies that specifically focus on the mechanism between parental alexithymia and parental emotion regulation and child behavioral

outcomes in ASD cohorts are small. Despite some studies analyzing alexithymia in persons with ASD ([Bird and Cook, 2013](#)) and others the impact of parenting stress or attachment patterns in ASD families ([Karst and Van Hecke, 2012](#)) there are few studies that have combined these variables in a conceptual framework that investigates the role of emotional mechanisms in parents.

The other issue of great importance is the lack of culturally based research that explores such associations in the non-Western setting. Majority of empirical research studies on alexithymia and parenting have been carried out in Western communities where cultures may have varied norms with respect to expressing emotions and the parenting styles ([Bornstein, 2013](#)). In Pakistan, cultural norms relating to emotional regulation, family functions and stigmatization of developmental disorders could influence parental emotional regulation and child behavioral performance. Although there is an expanding awareness of ASD among Pakistanis, the literature has been mainly on prevalence rates, stigma, and stress among parents ([Khan and Shabbir, 2019](#)), but the information on the emotional processes in parents has remained scanty.

In light of these theoretical and empirical aspects, the current research investigated the mutual relationships between parental alexithymia, parental emotion regulation and behavioral problems in children with ASD. It is postulated that increased parental alexithymia would be linked with worse parental emotion regulation abilities which might consequently imply aggravated behavioral problems among children with ASD. The study helped explaining possible emotional pathways by which parental characteristics can affect the outcomes of children by empirically testing these associations.

The implications of such dynamics are both clinical and practical in nature. Provided that parental alexithymia and emotion regulation turn out to be important predictors of child behavioral problems, interventions that address the matters of parental emotional literacy, emotional awareness, and adaptive emotion regulation approaches can be introduced as the useful elements of family-based ASD treatment programs ([Sofronoff et al., 2011](#)). On the one hand, such interventions can positively affect the well-being of parents, on the other hand, children can indirectly benefit emotionally and adjust their behavior. Finally, the proposed

study aimed to make some contributions to culturally competent, emotion-driven interventions that would support adaptive developmental pathways and enhance family functioning in ASD populations.

Chapter 2

Literature Review

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that is defined by problems in social communication, emotion processing, and behavioral regulation ([American Psychiatric Association, 2022](#)). ASD is characterized by a variety of behavioral problems, such as emotional imbalances, aggression, anxiety, internalizing, and externalizing symptoms, and has a serious impact on social functioning and the quality of life ([Ch'ng et al., 2015](#); [Mazefsky et al., 2013](#)). Much emphasis has been put on the family and emotional background of these consequences, especially on parental emotional traits. Parental alexithymia is one of such construct, which has been linked to reduced emotional expressiveness and less adaptively oriented parenting ([Bird and Cook, 2013](#)). New evidence indicates that parental alexithymia can adversely affect the emotional growth of children and increase behavioral problems, particularly among neurodevelopmental vulnerable children, such as ASD ([Costa et al., 2019](#)). Further, the regulation of emotions has been noted to be an important mediating process between parental alexithymia and child behavioral problems ([Morris et al., 2007](#)). It is thus important to understand how parental alexithymia, emotion regulation, and behavioral problems are interrelated when children with ASD are considered to inform family-based interventions and enhance developmental outcomes.

2.1 Parental Alexithymia

Alexithymia is a personality construct where one has persistent difficulties in identifying, describing, and cognitively handling individuals own experience of emotion, which is usually accompanied by an externally focused mode of thinking that limits emotional understanding ([Pilkington et al., 2024](#); [Zitzmann et al., 2024](#)). Alexithymia is not considered to be a mental disorder, but it is the one that is related to serious emotional, interpersonal, and regulatory problems. Alexithymic parents can have problems with being sensitive to emotional signals in their own lives and with attentiveness to the emotional signals of their children, which has a detrimental impact on parent-child relationships ([Gormley et al., 2022](#)). These issues can be especially intense for parents of children with Autism Spectrum Disorder (ASD), which comes with a number of complex emotional and behavioral challenges. Alexithymia is not a specific diagnosis in (DSM-5-TR); it is instead a conceptualized transdiagnostic feature of deficits in emotional processing that may be found in a spectrum of psychiatric and neurodevelopmental disorders ([American Psychiatric Association, 2022](#)). It has been shown that alexithymia has a high comorbidity with other disorders, including anxiety, depression, attention-deficit/hyperactivity disorder (ADHD), eating disorders, and post-traumatic stress disorder, which highlights its importance in the context of studying emotional dysfunction in clinical groups ([Leonardi et al., 2020](#)).

According to research, alexithymia is prevalent in the general population, with estimates ranging from 10% to 15%, and may be more common among parents of children with neurodevelopmental problems, such as ASD ([Poquérusse et al., 2018](#)). Parents with alexithymic tendencies may fail to notice and respond to their own emotions, limiting their capacity to give emotionally attentive care. According to [Costa et al. \(2019\)](#), parental alexithymia correlates with lowered emotional expressiveness and poorer sensitivity to their children's emotional cues. For example, [Luminet et al. \(2024\)](#) discovered that parents with greater alexithymia scores were less likely to be involved in reciprocal emotional exchanges, which are necessary for developing stable attachment and emotional development in children. Parental alexithymia may worsen difficulty in fulfilling the emotional needs of children with

ASD, who may require additional help owing to social and communication impairments. However, limited research has explicitly examined the frequency and significance of alexithymia in parents of children with ASD, necessitating more exploration.

[Hussain and Ahmed \(2014\)](#) examined the association between parental acceptance-rejection and alexithymia in 116 pupils (95 males, 21 females) from Gilgit, Pakistan. Using the TAS-20 and short variants of the Adult PARQ for mothers and fathers, the study found substantial negative correlation between perceived paternal and maternal acceptance and students' alexithymia. Regression analysis revealed that both mother and paternal acceptance independently predicted decreased alexithymia levels, indicating that parental emotional warmth may reduce alexithymic features in children. This study implicitly emphasizes the importance of parental emotional expressiveness in influencing children's emotional processing skills.

According to research, parents who exhibit high levels of alexithymia may find it difficult to comprehend their emotional reactions, which might make it harder for them to relate to the emotional experiences of their children ([Scarzello, 2023](#)). The establishment of a stable bond between parent and child, which is essential for the child's emotional and social growth, may be hampered by this lack of emotional sensitivity ([Temelturk et al., 2021](#)).

Research indicated a correlation between parental alexithymia and elevated levels of parenting stress, which subsequently corresponds to more prominent behavioral problems in children diagnosed with ASD ([Lin et al., 2023](#)). Research studies have shown that the mothers of children with ASD show high levels of alexithymia, report higher levels of stress, and lower levels of satisfaction with their parenting role ([Haidar and Meadan, 2024](#)). In families with children with ASD, parenting stress tends to be higher than in families of typically developing children due to the increased caregiving burden, emotional labor, and need for specialized interventions ([Kuhn and Carter, 2006](#)). Parents with alexithymia tend to be unable to identify and react to their own and their children's emotions, which can contribute to more limited emotional availability and higher levels of parenting stress

(Gormley et al., 2022). Leonardi et al. (2020) asserted that parents of autistic children (Autism Spectrum Disorder, ASD) exhibited much higher alexithymia levels than parents of normally developing children. Moreover, the mothers showed that there were significant correlations between alexithymia and anxiety and depression symptoms, which implies that impairments in emotional processing can have negative implications for parental mental health. Emotional awareness and regulation are features of such impairments that can interfere with the interactions between parents and children and add to poor behavioral outcomes of children with ASD.

2.2 Emotion Regulation in Children With ASD

Emotion regulation is the process by which individuals adjust their emotional experiences, and responses to attain adaptive outcomes (Gross, 2015). Children with ASD commonly have difficulties in emotion regulation, which appear as increased emotional reactivity, trouble recovering from distress, or maladaptive coping mechanisms (Mazefsky et al., 2013). These difficulties are assumed to arise from ASD's basic symptoms, such as sensory sensitivities and poor social cognition, as well as physiological variations in the amygdala and prefrontal brain function (White et al., 2015).

Empirical studies indicate that, poor emotion regulation in children with ASD is strongly associated with negative outcomes such as increased anxiety, depression, and behavioral problems. Berkovits et al. (2017) discovered that children with ASD who struggled to control their anger or grief were more likely to engage in externalizing behaviors like aggressive outbursts or tantrums. Parental impact on emotion regulation is crucial because parents frequently model and teach regulation skills through co-regulation and emotional socialization (Morris et al., 2007). However, parental alexithymia influences the development of emotion regulation in children with ASD remains unclear.

Muller (2024) reported in the study that if parents have problems expressing their emotions, children will also have similar difficulties. Individuals use different self-regulation techniques based on what they are feeling, so individuals with alexithymia may face problems understanding their feeling (Taylor et al., 1999; Gross,

2015). As a result, emotion regulation skills are poorly developed, and individuals use ineffective strategies to cope with emotions (Morris et al., 2007). Ultimately, the inability to cope with emotions may lead to negative consequences for the family system. According to the research, alexithymia not only affects emotional regulation but also predicts parenting style or behaviors. Parents with alexithymia are more likely to follow authoritative or permissive parenting styles. Permissive parenting could lead to poor emotion regulation and aggressive behavior in the child (Morris et al., 2007; Bird and Cook, 2013; Pinquart, 2017).

2.3 Behavioral Problems in Children with ASD

Behavioral problems are widespread in children with ASD, and they include both externalizing behaviors (e.g., aggressiveness, hyperactivity) and internalizing behaviors (e.g., anxiety, withdrawal) (Bauminger et al., 2010). These behaviors frequently appear early in development and can last throughout adolescence and age, posing problems for families, educators, and therapists. According to studies, 50%-70% of children with ASD have clinically significant behavioral problems, that are linked to greater parental alexithymia and lower quality of life (Mazurek et al., 2013).

The etiology of behavioral problems in ASD is multifaceted, including internal components such as sensory processing abnormalities and external factors such as family dynamics and parenting techniques (Totsika et al., 2011). Empirical studies suggest that, emotion regulation challenges are a crucial mediator of behavioral problems, as children who struggle to regulate their emotions are more likely to engage in maladaptive behaviors in reaction to stress or anger. While parenting styles, such as authoritarian or permissive methods, have been researched in connection to child behavior, less attention has been devoted to specific parental emotional qualities, such as alexithymia, and their impact on behavioral outcomes in ASD.

Studies show that the development of behavioral problems in children with autism is significantly influenced by the emotional management of their parents. Emotionally dysregulated parents are more prone to react angrily or frustrated with

their child's difficult actions, which might encourage the child's bad behavior patterns. On the other hand, parents who are adept at controlling their emotions are more likely to employ constructive discipline techniques like problem-solving and positive reinforcement, which can lessen behavioral problems in their child (Scarzello, 2023).

Children with autism may exhibit a wide range of behavioral difficulties, including aggressiveness, self-harm, disobedience, and tantrums. These acts can start a vicious circle of unfavorable interactions within the family and are frequently a major cause of stress for parents. Studies have demonstrated the correlation between a variety of parental characteristics, such as stress, coping mechanisms, and emotional functioning, and the intensity of behavioral problems in children with autism (Griffin et al., 2016).

2.4 Relationship Between Parental Alexithymia, Emotion Regulation and Behavioral Problems

The study on parental alexithymia and behavioral problems has shown the results that parental alexithymia is a predictor of children's internalizing and externalizing behavioral problems. Scarzello (2023), reported that in the study self-reporting tools were used which was completed by fathers. The children's mothers were not part of the research, and that is why the study doesn't state how maternal characteristics influence the relationship between parental alexithymia and behavior problem among children. Since emotional regulation is the foundation of behavioral problems (internalizing and externalizing symptoms), recent research has focused on the possibility of a connection between parental alexithymia and behavioral problems. Parental alexithymia is a significant predictor of maladjustment in children, (Eisenberg et al., 1998; Morris et al., 2007) although its relationship to behavioral problem (internalizing and externalizing symptoms) is not well understood. Numerous studies have demonstrated the connection between parental

alexithymia and behavioral problem in children, including internalizing emotional symptoms and externalizing symptoms ([Scarzello, 2023](#)).

An inadequate but growing body of research backs up this idea. [Costa et al. \(2019\)](#) discovered that parental alexithymia was associated with worse emotion regulation in normally developing children, which was mediated by less parental emotional expressiveness. Similarly, in the setting of ASD, [Szatmari et al. \(2008\)](#) found that parents with greater alexithymic features were less competent at co-regulating their child's emotions, which was associated with more externalizing behaviors. However, these studies are hampered by small sample sizes and a focus on generally developing children or broad neurodevelopmental groups, rather than ASD in particular.

Furthermore, the processes behind the relationship between parental alexithymia, emotion regulation, and behavioral problems are not well known. Emotion regulation is thought to act as a mediator because parental difficulties with emotional processing may impede the child's capacity to establish effective regulation methods, increasing the chance of behavioral problems ([Eisenberg et al., 1998](#)). However, longitudinal studies investigating these pathways in the setting of ASD are few, and available research frequently uses cross-sectional approaches, which limit causal conclusions.

2.5 Theoretical Framework

2.5.1 Attachment Theory

The current research is based on the Attachment Theory that was initially suggested by [Bowlby \(1969\)](#) and empirically developed by [Ainsworth et al. \(2015\)](#). According to the attachment theory, early childhood emotional connection between the child and the primary caregiver is the basis of the socio-emotional growth, emotion regulation, and subsequent psychological adaptation. [Bowlby \(1969\)](#) found that children construct internal working models of themselves and others depending on the responsiveness, sensitive and emotional availability of

caregivers. These internalizations inform emotional regulation response and behavioral reactions throughout growth. Strange Situation research conducted by [Ainsworth et al. \(2015\)](#) identified the secure attachment and insecure (avoidant, ambivalent and later disorganized) patterns of attachment. Secure attachment is formed when the caregivers are responsive and attentive to the emotional state of the child and can offer a secure base upon which the child can explore and a safe haven when the child is troubled. Conversely, uncertain, dismissing, or threatening caregiving promotes insecure or disorganized attachments, which relate to the inability to control emotions and greater problems with behavior ([Gross, 2015](#)). In this theoretical framework, the current study theorizes parental alexithymia as an element that can interfere with caregiver sensitivity, undermine attachment security, and lead to emotion regulation problems and behavioral problems among children with Autism Spectrum Disorder (ASD).

Attachment theory focuses on the sensitivity of caregivers, that is, the capability of correctly responding, deciphering, and reacting to the sentimental signals of a child as the main determinant of attachment security. The alexithymia of parents who struggle with the identification and description of feelings and an outward-focused cognitive perspective ([Scarzello, 2023](#)) could have a tremendous negative influence on the sensitivity of parents. Alexithymic parents could have difficulties with identifying their feelings and those of their child. This emotional blindness can decrease empathic sensitivity, decrease emotional expression and damage contingent responsiveness. The studies show that alexithymia is more common in parents of children with ASD than in parents of normally developing children ([Kosić et al., 2025](#)). This can result in an emotionally restrictive care giving atmosphere and thus predispose the development of insecure attachment. Attachment-wise, children can have insecure internal working models of unpredictability, rejection or anxiety in case caregivers are emotionally unavailable or inconsistent. The effect of these internal models is on the way children see relationships, and control emotional distress ([Bowlby, 1969](#)).

Attachment theory views emotion regulation as produced within the relationship of a caregiver and a child. At a tender age, the parents act as outside discipliners of the emotional conditions of the child. Children learn to have a regulatory strategy

through repeated episodes of co-regulation ([Cassidy, 1994](#)). Properly bonded children understand that distress is an emotion that should be met with comfort and support leading to adaptive regulation strategies. Conversely, insecurely attached children can use hyperactivating (e.g. increased emotional expression, anxiety) or deactivating (e.g. emotional suppression, avoidance) strategies to cope with inconsistent caregiving ([Mikulincer and Shaver, 2010](#)). Emotion regulation is among the inherent problems faced by children with ASD, such as emotional reactivity, inability to switch attention, and the need to use maladaptive strategies ([Cuzzocrea et al., 2015](#)). The attachment theory, however, posits that the vulnerabilities can be moderated or intensified by caregiver responsiveness. Children with alexithymia in parents can develop more ER problems because of lack of emotional scaffolding when the parental alexithymia disrupts the effective co-regulation. Moreover, high rates of alexithymia have been also reported in people with ASD as a factor in the difficulties with emotional awareness and social functioning. In cases where the parent and child have problems with emotional processing, the relationship between the parent and child can become troubled which solidifies dysregulation patterns.

The attachment theory also assumes that insecure attachment is related to a higher likelihood of internalizing (e.g., anxiety, withdrawal) and externalizing (e.g., aggression, tantrums) behavioral problems ([Fearon et al., 2010](#)). Emotional and behavioral dysregulation is closely linked with disorganized attachment, in particular ([Main et al., 1990](#)). Whereas initial assumptions were that children with ASD might not be able to develop attachments, current studies show that a significant portion of children with ASD can develop secure attachments that are similar to those of their typical developing counterparts ([Giannotti and de Falco, 2021](#); [Rutgers et al., 2004](#)). Yet, the children with ASD have a higher risk of insecure and disorganized attachment, especially when the severity of the manifestations is high. Poor behavioral problems, lower language competence, insecure attachment in children with ASD, and low empathy have been associated with poorer social competence ([Giannotti and de Falco, 2021](#)). Attachment theory indicates that in case a caregiver is considered inconsistent or emotionally unavailable, children can portray an increase in negative affect, incapability to calm down following a

stressful event, and dysregulation in their behaviors (Cassidy, 1994). Therefore, alexithymia in parents could also be a cause of behavioral problems indirectly through the loss of attachment security and the disruption of the process of emotion regulation. In the long run, maladaptive internal working models could become entrenched by experiencing ineffective co-regulation, which would leave an individual more prone to encounter internalizing and externalizing problems.

2.5.2 Conceptual Model

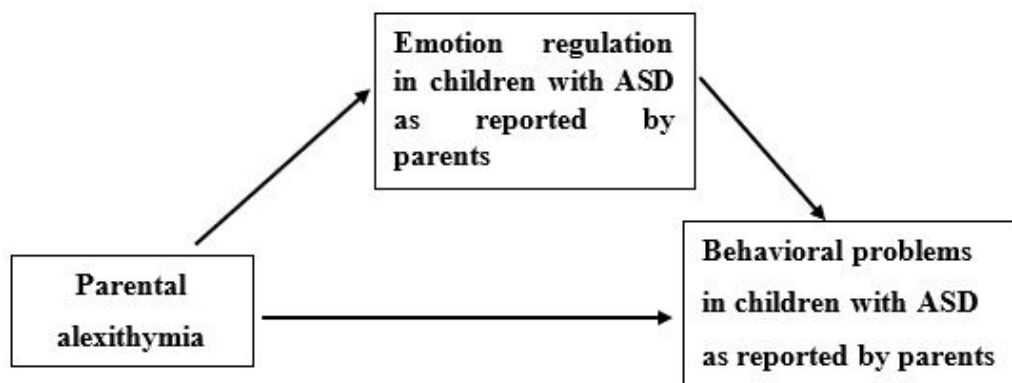


FIGURE 2.1: Conceptual Model of the Study

2.6 Rationale

The increasing prevalence of autism spectrum disorders (ASD) has highlighted the need to understand the psychological and emotional problems that parents of ASD children confront (Scarzello, 2023). Parental alexithymia, which is defined by difficulties detecting and expressing emotions, has been related to greater parental stress and worse emotion regulation in children with ASD, which may exacerbate behavioral problems such as aggression or self-injury (Zainab et al., 2023). Understanding the relationship between parental alexithymia, emotion regulation, and behavioral problems is crucial for establishing effective treatments to assist families.

According to research, parents with alexithymia often experience difficulties in understanding and responding to both their own emotions and those of their children, which may lead to reduced emotional availability and increased parenting

stress ([Gormley et al., 2022](#)). [Durukan et al. \(2018\)](#) reported that parents of children with Autism Spectrum Disorder (ASD) exhibit significantly higher levels of alexithymia compared to parents of typically developing children. Furthermore, mothers demonstrated significant associations between alexithymia and symptoms of anxiety and depression, suggesting that emotional processing deficits may adversely affect parental mental health. Such impairments in emotional awareness and regulation can disrupt parent–child interactions and may contribute to adverse behavioral outcomes in children with ASD.

Parents with alexithymia frequently have difficulty managing and modulating emotional regulation. This might make it difficult to cope with the special needs of raising a child with ASD, such as managing tantrums or sensory sensitivity. [Lin et al. \(2023\)](#) found a high correlation between alexithymia in parents of ASD children and parental burnout. Emotion regulation problems contribute to emotional weariness. As [Carli et al. \(2023\)](#) explain, inadequate emotion regulation may also lead to overreactive parenting methods, which can aggravate child behavior problems.

Children with ASD frequently show behavioral problems, such as internalizing (e.g., anxiety, withdrawal) and externalizing (e.g., aggressiveness, tantrums), which put an additional burden on parents. [Carli et al. \(2023\)](#) observed that paternal alexithymia substantially predicts internalizing and externalizing problem in early children with ASD.

Autism Spectrum Disorder (ASD) has demonstrated a significant rise in the prevalence rate all over the world, and the last estimates indicated that the prevalence was about 1 in 100 children throughout the world ([Zeidan et al., 2022](#)). The real prevalence of ASD is not known in Pakistan because there is no national surveillance system, but based on the available data, the prevalence rates can be similar to the estimates of other countries, and the problem of underdiagnosis is likely to be caused by low awareness, stigma, and access to diagnostic and mental health services ([Zeidan et al., 2022](#); [Rahbar et al., 2011](#)). Such systemic constraints exert significant emotional and psychological pressure on parents, especially those alexithymic, who already have problems recognizing and managing emotions. This

elevated parental stress in low-resource contexts can further alter emotional availability and parental responsiveness, enhancing the likelihood of the emergence of unfavourable emotional and behavioural outcomes in children with ASD. In line with this direction, as was revealed by [Lin et al. \(2023\)](#), perceived social support mediates the association between parental alexithymia and parental burnout and explains 16.3% of the effect. These results imply that in resource-limited and culture-specific situations, like Pakistan, the role of parental alexithymia in shaping the regulation of emotion and behavior adaptation in children is important, instead of emphasizing cultural differences in emotional expression. Previous research has investigated the separate impacts of parental alexithymia, emotion regulation, and behavior problems, but few have focused at their interrelationships in depth. Carli et al. (2023) investigated paternal alexithymia but did not look at maternal or cross-cultural variances. Similarly, [Durukan et al. \(2018\)](#) underlined the relationship between alexithymia and parental anxiety and sadness, but did not investigate its direct influence on child behavior. Furthermore, most research focuses on Western populations, with inadequate data from underdeveloped nations or various cultural situations ([Lin et al., 2023](#)). [Temelturk et al. \(2021\)](#) also point out a dearth of large-scale, quantitative research that incorporates these aspects to yield generalizable conclusions.

2.7 Objectives

- i. To investigate the relationship between parental alexithymia and emotion regulation in children with ASD (as reported by parents).
- ii. To investigate the relationship between parental alexithymia and behavioral problems among children with ASD.
- iii. To investigate the relationship between emotion regulation and behavioral problems among children with ASD.
- iv. To investigate the mediating role of emotion regulation in the relationship between parental alexithymia and behavioral problems in children with ASD.

- v. To investigate gender differences in levels of parental alexithymia among fathers and mothers of children diagnosed with ASD.

2.8 Hypotheses

- H1: Parental alexithymia will have a negative relationship with emotion regulation among children with ASD.
- H2: Parental alexithymia will have a significant positive relationship with behavior problems in children with ASD.
- H3: Emotion regulation will have negative relationship with behavioral problems in children with ASD that is poorer emotional regulation is associated with higher behavior problems.
- H4: Emotion regulation will mediate the relationship between parental alexithymia and behavioral problems among children with ASD.
- H5: There will be significant differences in parental alexithymia levels between both parents of child diagnosed with ASD.

Chapter 3

Research Methodology

3.1 Research Design

The current research used cross-sectional correlational research design to test the links among parental alexithymia, emotion regulation, and behavior problems of children with Autism Spectrum Disorder (ASD). Under such design, all data were measured at one point in time and allowed the researchers to investigate the relations between the higher levels of parental alexithymia and the lower levels of parental emotion regulation as well as the relations between the higher levels of parental alexithymia and the intensity of the behavioral problems in children with ASD.

The design was also helpful in terms of collecting data about several participants at the same time, as it facilitated the use of correlational analysis, which is advantageous in the studies that were to be conducted with families having children with ASD as it is possible to identify relationships that are both positive and negative, including those that may be beneficial or even harmful to the outcomes of children of parents with ASD.

3.1.1 Sample

A purposive sampling technique for participant was used. The study involved a sample size of N=264 participants including both parents (132 fathers, and

132 mothers) from various rehabilitation centers, clinics, and special educational institutes of Rawalpindi and Islamabad.

3.1.2 Time Horizon, Study Setting and Data Collection Procedure

The study gathers data at a single time point to look at the correlations between the parental alexithymia, emotion regulation and behavioral problems. To reach sample of parents, the study was conducted in a variety of locations, such as rehabilitation centers, clinics and special educational institutes. The data was collected from different public and private institutes for special children of districts Rawalpindi, and Islamabad. The inclusion criteria for the present study were that the researcher has selected only those children's parents who were diagnosed with autism. In addition, this study focused on both a father and a mother of children with ASD.

Participants were given instructions about the study, and informed consent has been obtained from participants. They were reassured that the information gathered was used solely for research reasons and that they may withdraw at any moment. The participants were provided with clear instructions to read each item and select the response option that they understand the best and the questionnaires took 15 to 20 minutes to complete.

3.1.3 Demographic Information Sheet

This study used a demographic information sheet that contained detailed data on the child, including the particular diagnosis of ASD and the age of diagnosis, as well as any other developmental or psychological impairments.

Besides the child-related data, the sheet has collected much information about the parents including their age, sex, level of education, occupation and socioeconomic status. The demographic sheet was also used to gather the family structure information such as the number of children in the family, marital status of the parents and the extended family participation.

On the whole, the demographic information sheet guaranteed a stable process of collecting the appropriate background variables that can be analyzed in a more sophisticated manner, as the connections between parental alexithymia, emotion regulation, and behavioral problems in children with ASD can be considered.

3.1.4 Sample Characteristics

A total of 264 parents (132 mothers and 132 fathers) were included in the study. The sample size was determined based on G-power analysis for correlational research, which indicated that a 264 parents were selected as it ensures adequate power for detecting effect size (Cohen, 1988) and this number ensures sufficient statistical power (0.80). Previous empirical studies examining parental alexithymia, emotion regulation and behavioral problems using correlation have reported conclusive results with comparable or smaller data sets ([Hill et al., 2004](#); [Costa et al., 2019](#)), indicating that the current sample size is adequate. Therefore, the selected sample of 264 provides both statistical adequacy and practical representation for the target population.

3.1.5 Inclusion Criteria

Participants of present study were parents (mothers and fathers) of children formally diagnosed with autism spectrum disorder. Parents, who possessed the ability to read and understand the language used in assessment tools. Those who were willing to give informed consent and participate in the study were included. Children aged 6 to 14 years were selected from different rehabs, clinics, and inclusive schools.

3.1.6 Exclusion criteria

Parents of children without formal diagnosis and were with severe comorbidities were excluded from sample. Parents who have severe psychiatric disorders, were unable to read or understand, and were not willing to participate in the study were excluded.

3.2 Instruments

The following instruments were used in the current study to explore the relationship between variables.

3.2.1 Toronto Alexithymia Scale (TAS-20)

The Toronto alexithymia scale (TAS 20) is a 20 item self-report questionnaire, which was used to identify alexithymia related issues such as difficulty recognizing, describing and regulating emotional states ([Bagby et al., 1994](#)). The scale comprises of subscales such as difficulty describing feelings, difficulty identifying feelings, and externally oriented thinking. A 5-point Likert scale is used for each item's response (1 being strongly disagree, and 5 being strongly agree). A total score of 20 to 100 is calculated by summing all the 20 items responses. Higher score indicates difficulties in describing, identifying and regulating emotions. The score ranging from 20 to 51 indicates no Alexithymia. Individuals scoring ranging from 50 to 61 may indicate possible alexithymia. Individuals ranging from 61 to 100 may experience difficulties identifying and describing emotion. Overall, the TAS-20 demonstrates strong psychometric validity across cultures, with the total scale reporting Cronbach's alpha values between 0.80 and 0.87.

3.2.2 Strength and Difficulties Questionnaire

The Strengths and Difficulties Questionnaire (SDQ) is a brief behavioral screening questionnaire used for 2 to 17 years old ([Goodman, 1997](#)). It is widely used in clinics, educational settings, research and cross-cultural studies. It is a validated 25-item caregiver-report test with five subscales such as emotional symptoms, behavioral problem, hyperactivity, peer difficulties, and prosocial behavior ([Goodman, 1997](#)). The caregivers rate each item based on child's conduct in previous six months, such as "not true" (0), "somewhat true" (1), or "certainly true" (2) ([Goodman et al., 2010](#)). The scores for each subscale range from 0 to 10. A total difficulties score is obtained by adding the score of all subscales except the prosocial behavior scale, for a total score ranging from 0 to 40. Higher scores indicate

the emotional and behavioral problems, whereas higher score on the prosocial scale indicate greater social strengths. According to Cronbach's alpha, the SDQ scores in the present sample have the following internal consistency: emotion =.755, behavior =.755, hyperactivity =.738, peer problem =.486, prosocial =.734, and overall challenges =.683.

3.2.3 Emotional Regulation Checklist

The Emotion Regulation Checklist (ERC) (Shields and Cicchetti, 1997) is a 24-item parent-report questionnaire comprising two subscales. The Emotion Regulation (ERC-ER) subscale measures children's overall mood, ability to identify and express emotions, and capacity to display appropriate emotions in both positive and negative situations; higher scores indicate greater emotional control. The Lability/Negativity (ERC-LN) subscale assesses inflexibility, mood fluctuation, dysregulated negative affect, and exuberant behavior; higher scores suggest greater emotional dysregulation. A total score may also be calculated, with higher values reflecting better overall emotion management. Higher scores on the ERC total score indicate stronger levels of emotion regulation. Shields and Cicchetti (1997) reported strong reliability indices for the ERC (internal consistency; ERC-LN: $\alpha = 0.96$; ERC-ER: $\alpha = 0.83$). Berkovits et al. (2017) also found satisfactory internal consistency for the ERC-LN ($\alpha = 0.81$) and ERC-ER ($\alpha = 0.80$) at both initial and final assessments.

3.3 Ethical Consideration

This study was approved by the Ethics Committee of the Faculty of Management and Social Sciences at Capital University of Science and Technology (CUST) based on the ethical approval of the study before the commencement of data collection. This made sure that the research was conducted in the best ethical standards and all the procedures were consulted and passed to safeguard the rights and well-being of the participants.

The purpose, objectives, and nature of the study were explained well to all participants prior to their consent. They were informed that their involvement was completely voluntary and that there was no adverse penalty in case they decided to stop participating in the study. The sensitivity of the research that included questions on parental emotional functioning and behavioral characteristics of children with ASD had to be taken into account because it was a delicate matter.

The participants were notified beforehand of the nature of questions they would be asked and this was due to the fact that they were assured that they could decline to answer any questions that they found to be uncomfortable or pull out at any point.

The study was done under confidentiality and anonymity. The personal identity of the participants was kept confidential and the data stored in a safe place that would not be accessed by the wrong person. The collected information was applied to academic purposes only and analyzed in such a manner that the individual participants cannot be identified. Also, the participants were advised that they could seek access to the general study results at the end of the study and this assisted in facilitating transparency and trust regarding the research. These steps were used to establish a secure and ethical atmosphere where parents should feel free to give personal and intimate information concerning their experiences of raising children with ASD.

3.4 Data Analysis

Data was analyzed by using Statistical Package for Social Sciences (SPSS, Version 21) for a sample of 264 parents. The sample included 264 parents of children diagnosed with Autism Spectrum Disorder (ASD). The analysis was carried out in several stages to offer a full review of participant characteristics, instrument reliability, and research variable connections.

Initially, descriptive statistics were used to summarize demographic data and research factors. Categorical variables such as the child's ASD diagnosis, parental age, educational level, socioeconomic situation, family structure, and work status

were represented by frequencies and percentages. This revealed a clear picture of the distribution of participation across demographic groupings. The mean, standard deviation, skewness, and kurtosis of continuous study variables such as parental alexithymia, children's emotion regulation, and behavioral disorders were calculated to reflect central tendency, variability, and distribution features. Skewness and kurtosis were specifically analyzed to determine the normality of the data, which influenced the subsequent statistical tests.

Cronbach's alpha was calculated for each scale to confirm that the measurements were reliable. The study used the Toronto Alexithymia Scale (TAS-20) to examine parental alexithymia, the Emotion Regulation Checklist (ERC) to assess children's emotion regulation, and the Strengths and Difficulties Questionnaire (SDQ) to assess child behavioral problems. Cronbach's alpha values greater than 0.70 were regarded satisfactory, indicating that the instruments accurately measured the intended constructs in this sample.

The associations between important study variables were examined using Spearman's rank-order correlation. This non-parametric technique was used because skewness and kurtosis tests revealed deviations from normality. The correlations allowed us to analyze the strength and direction of the relationship between parental alexithymia, children's emotion control, and behavioral issues.

To investigate differences across groups, the Mann-Whitney U test was used. This test examined results from separate groups, such as mothers and fathers, to see if gender or other categorical characteristics affected parental alexithymia or child behavioral and emotional outcomes. Given the variables' non-normal distribution, the non-parametric technique proved appropriate, allowing for robust group comparisons.

In addition, a mediation analysis was performed to see whether children's emotion management mediated the association between parental alexithymia and behavioral disorders. The study examined both the direct influence of parental alexithymia on child behavior and the indirect effect through emotion regulation, with confidence intervals used to assess statistical significance. This technique enabled

the exploration of potential underlying mechanisms relating parental emotional qualities to child outcomes.

Overall, the analytical strategy used descriptive, correlational, comparison, and mediation techniques to thoroughly investigate the study hypotheses. The analysis used non-parametric tests, reliability assessments, and mediation modeling to account for non-normal distributions, group differences, and potential intermediary mechanisms, resulting in a comprehensive understanding of parental alexithymia, child emotion regulation, and behavioral problems in the context of ASD.

Chapter 4

Results

This chapter presents the results using Statistical package of social sciences (SPSS), by examining the relationship of parental alexithymia, emotion regulation and behavioral problems among children diagnosed with ASD. The results showed the data was not normally distributed by using Kolmogorov Smirnov, so non parametric tests were employed. The reliability was calculated by using alpha coefficient. The correlation analyses were performed using spearman rank order correlation. The mediation analysis was conducted to analyze the mediating role of emotion regulation. To find the mean differences of gender with parental alexithymia was carried out by Mann Whitney-U test.

TABLE 4.1: Frequencies and Percentages of the Demographic Variables of Study Participants (N = 264)

Characteristics	Category	F	%
Relation	Father	132	50
	Mother	132	50
Education	Matric	5	1.9
	Inter	39	14.8
	BA/BS	150	56.8
	MA/MS	63	23.9
	PhD	7	2.7
Family System	Nuclear	162	61.4

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Characteristics	Category	F	%
Occupation	Joint	102	38.6
	Employed	185	70.1
	Unemployed	79	29.9
Marital Status	Divorced	18	6.8
	Married	246	93.2
Socioeconomic Status	Upper class	33	12.5
	Middle class	221	83.7
	Lower class	10	3.8
Number of Children	1 to 2	157	59.5
	3 to 4	98	37.1
	5 to 6	9	3.4
Diagnosis of a Child	Mild	113	42.85
	Mild to moderate	36	13.6
	Moderate	71	26.9
	Moderate to severe	37	14
	Severe	7	2.7

Note. *F* = Frequency; % = Percentage.

Table 4.1 demonstrates demographic characteristics of sample consisting of 264 participants, their age, gender, education, marital status, number of children, occupation, family system, socioeconomic status, and child diagnosis. Both the mothers (50 per cent) and fathers (50 per cent) were used as the sample. Family structure was mainly nuclear (59.5) as compared to joint (40.5). Most of the parents (70.1) were working and 89% were married, 8.3 had been divorced and 2.7 widowed. Socioeconomic level was majorly middle class (83.7%), upper class (12.5) and lower class (3.8). Most of them (59.5%), 37.1% and 3.4% had 1-3, 4-6 and 7-9 children respectively. The diagnostic severity of the children was low (42.85), medium (26.9%), and severe (2.7%). The following demographics are relevant to

the study to explain the results of parental history, family structure, socioeconomic level, and child impairment severity.

TABLE 4.2: Chronbach's Alpha Reliability Coefficients of parental alexithymia, Emotion Regulation and behavioral problems in children with ASD. (n=264)

Variables	M	SD	α	Range	
				Potential	Actual
Parental alexithymia	78.4	6.1	.80	20-100	65-94
Behavioral problems	69.5	6.3	.72	1-96	67-94
Emotion regulation	51.6	6.6	.78	0-84	32-66

Note. α = Alpha reliability; M = Mean; SD = Standard Deviation.

Table 4.2 shows the Cronbach's alpha reliability for parental alexithymia, behavioral problems and emotion regulation in children with ASD. Parental alexithymia had a mean score of 78.4 (SD=6.1) with high internal consistency reliability ($\alpha=.80$). The behavioral issues scale had a mean score of 69.5 (SD=6.3) and acceptable reliability ($\alpha=.72$). The mean score for emotion regulation was 51.6 (SD=6.6) with satisfactory reliability ($\alpha=.78$). The actual score ranges for all variables were within their corresponding potential ranges, showing sufficient variability in participants' responses. Overall, the reliability coefficients indicated satisfactory internal consistency of the study measures.

TABLE 4.3: Descriptive statistics of parental alexithymia, behavioral problems and emotion regulation in children with ASD (n=264)

Variables	M	SD	Skew	Kurt	K.S
Parental alexithymia	78.4	6.1	0.10	-0.63	<.001
Behavioral problems	69.5	6.3	-2.60	5.64	.002
Emotion regulation	51.6	6.6	-0.74	0.79	<.001

Note. M = Mean; SD = Standard Deviation; Skew= skewness; Kurt=Kurtosis; K.S=Kolmogorov-Smirnov test.

Table 4.3 shows the descriptive statistics for the study variables. The values of behavioral problems had significant skewness and kurtosis values, indicating a deviation from normality, but parental alexithymia and emotion regulation had

generally acceptable distribution values. The Kolmogorov-Smirnov test showed significant results for all variables ($p < .05$), indicating a violation of the normality assumption. As a result, nonparametric statistical analyses were performed in the study.

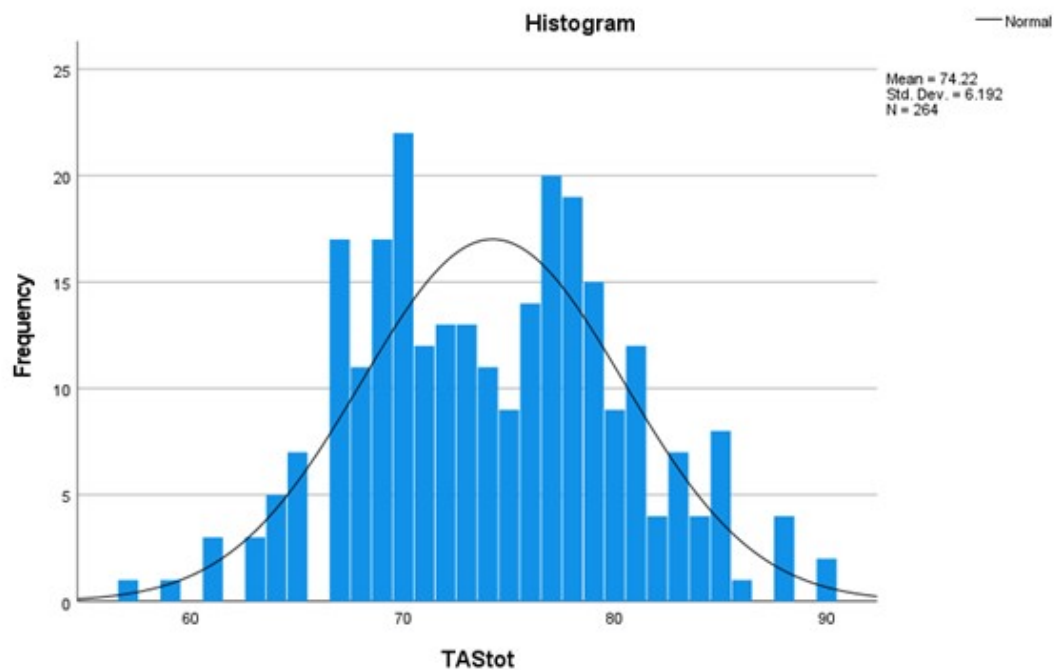


FIGURE 4.1: Normality distribution of Toronto alexithymia scale (N= 264)

The histogram 4.1 of TAS total scores (TAS Tot) indicates that the data are approximately normally distributed. The distribution appears symmetric and bell-shaped, with most scores clustering around the central values. The superimposed normal curve closely follows the shape of the histogram bars.

The mean score of TAS is 74.22 (SD = 6.19), based on a sample size of $N = 264$. The majority of participants scored between approximately 68 and 80, with fewer cases observed at the extreme lower and higher ends of the distribution. There is no strong evidence of severe skewness or kurtosis, and no extreme outliers are visibly apparent.

The histogram 4.2 of SDQ total scores demonstrates an approximately normal distribution. The data appear reasonably symmetric, with a bell-shaped pattern that closely follows the superimposed normal curve.

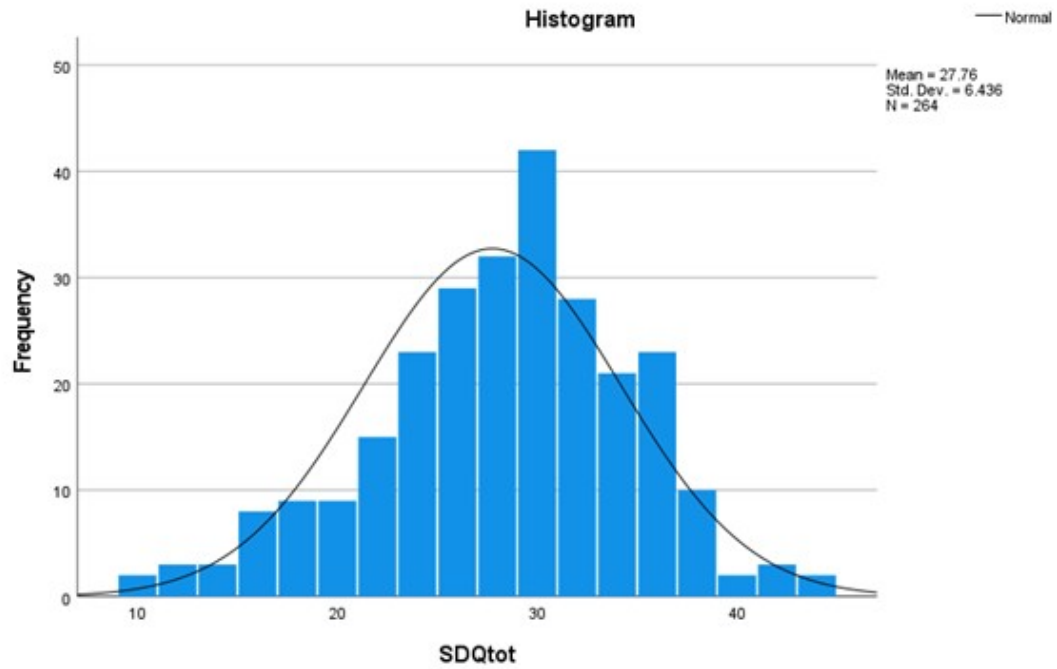


FIGURE 4.2: Normality distribution for strength and difficulties questionnaire (N=264)

The mean SDQ total score is 27.76 ($SD = 6.44$), based on a sample of $N = 264$ participants. Most scores cluster around the mean, primarily ranging between approximately 22 and 34. Only a small number of cases fall at the lower and higher extremes, indicating no visible presence of extreme outliers.

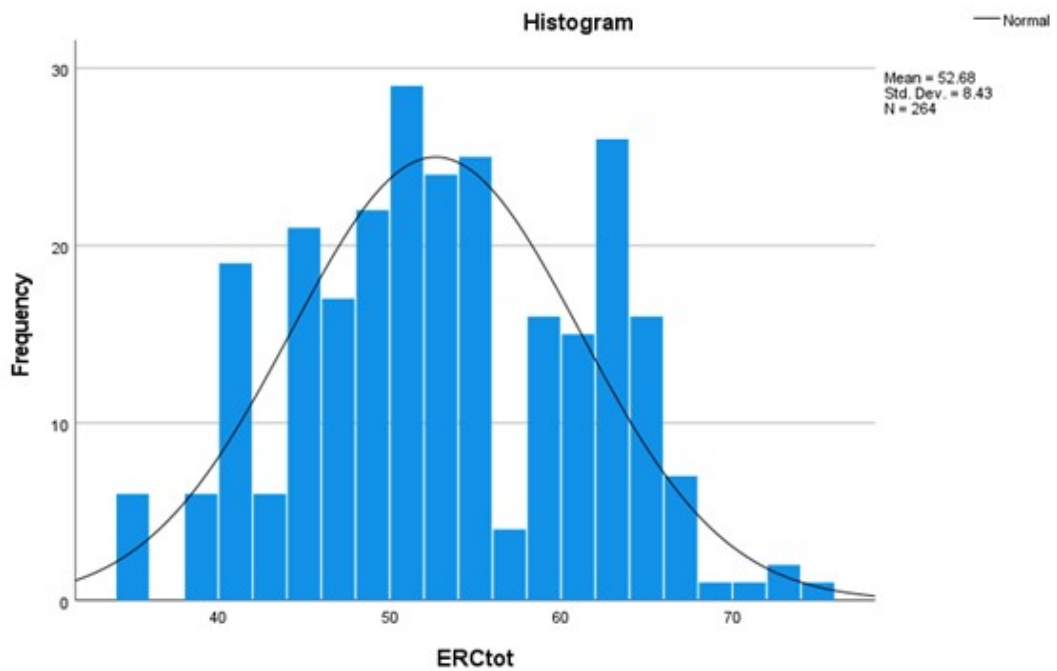


FIGURE 4.3: Normality distribution for emotion regulation checklist (N=246)

The histogram 4.3 of ERC total scores indicates an approximately normal distribution. The data display a generally bell-shaped pattern, and the superimposed normal curve closely aligns with the observed frequencies, suggesting that the distribution does not substantially deviate from normality.

The mean ERC total score is 52.68 (SD = 8.43), based on a sample of $N = 264$ participants. Most scores are concentrated around the mean, primarily falling between approximately 45 and 60. Although a few cases appear at the higher and lower ends of the distribution, there is no strong evidence of extreme skewness or outliers.

TABLE 4.4: Spearman rho correlations between parental alexithymia, and behavioral problems in children with ASD ($N = 264$)

Variables	Parental alexithymia	Behavioral problems
Parental Alexithymia	–	
Behavioral Problems	-.037	–

Note. Spearman's rho correlation coefficients are reported. $**p < .01$, $*p < .05$ (one-tailed).

Table 4.4 indicates the results of spearman rho correlations to determine the correlation between parental alexithymia and behavioral problems in children with ASD. Parental alexithymia had a weak and negative significant association with behavioral problems ($\rho = -.037$, $p > .05$). The negative correlation indicates that greater levels of parental alexithymia were only weakly associated with lower behavioral problems in children with ASD scores; nevertheless, the magnitude of the relationship was extremely weak and not statistically significant. Because the p-value exceeded the significance level of .05, the findings indicates that parental alexithymia had no significant relationship with behavioral problems in children with ASD.

In table 4.5, indicates that the correlation between parental alexithymia and emotional regulation. Parental alexithymia had a weak and negative significant association with emotional regulation in children with ASD ($\rho = -.029$, $p = .05$). This suggests that increase in parental alexithymia were not significantly related to changes in children's emotion regulation. Although the relationship's direction

TABLE 4.5: Spearman rho correlations between parental alexithymia, and behavioral problems in children with ASD (N = 264)

Variables	Parental alexithymia	Emotion regulation
Parental Alexithymia	–	
Emotional Regulation	-.029	–

Note. Spearman's rho correlation coefficients are reported. ** $p < .01$, * $p < .05$ (one-tailed).

was negative, the coefficient value was extremely minor, implying that there was little to no substantial correlation between parental alexithymia and emotion regulation in children with ASD. As a result, parental alexithymia was not found to be a significant predictor of emotion regulation outcomes in children with ASD.

TABLE 4.6: Spearman rho correlations between emotion regulation and behavioral problems in children with ASD (N = 264)

Variables	Behavioral problems	Emotional regulation
Behavioral Problems	–	–
Emotional Regulation	.042	–

Note. Spearman's rho correlation coefficients are reported. ** $p < .01$, * $p < .05$ (one-tailed).

In table 4.6, indicates that the Spearman correlation between behavioral problems and emotional regulation in children with ASD. Emotional regulation had weakly and statistically non-significant positive correlation with behavioral problems in children with ASD ($\rho = .042$, $p = .05$). The positive direction of the correlation suggests that higher emotion regulation scores were only slightly associated with higher behavioral problems scores; nevertheless, the relationship was extremely weak and lacked statistical significance. These results indicate that emotion regulation was not substantially related with behavioral problems in the current sample.

The table 4.7 indicates the results for mediation analysis that was performed using Bootstrap analysis through the PROCESS Model 4 in SPSS (Hayes, 2017), to analyze emotion regulation mediates the relationship between parental alexithymia and behavioral problems. The table shows that the overall influence of

TABLE 4.7: Mediation Analysis Examining Emotion Regulation as a Mediator Between Parental Alexithymia and Behavioral Problems (N = 264)

Paths	β	SE	LL	UL	t	p
TAS $\rightarrow$ ERC	-0.03	0.08	-0.19	0.13	-0.37	.70
ERC $\rightarrow$ SDQ	0.01	0.04	-0.07	0.11	0.37	.71
TAS $\rightarrow$ SDQ	-0.009	0.06	-0.13	0.12	-0.14	.88
Total Effect	-0.00	0.06	-0.13	0.12	-0.14	.88
Direct Effect	-0.00	0.06	-0.14	0.11	-0.13	.89
Indirect Effect	-0.001	.005	-0.01	0.007		

Note. TAS = Toronto Alexithymia Scale; ERC = Emotion Regulation Checklist; SDQ = Strengths and Difficulties Questionnaire; β = Standardized coefficient; SE = Standard Error; CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit; $p < .05$.

parental alexithymia on the behavioral problem of children was not significant ($\beta = -0.009$, $p = .88$). The immediate influence too was negligible ($\beta = -0.01$, $p = .89$), which suggested that parental alexithymia does not influence the behavioral problem of children, when emotional control is present. In addition, the indirect effect was not statistically significant, and this means that no mediation has taken place. Therefore, emotional regulation is not a mediator of the association that exists between parental alexithymia and behavioral problem in children living with autism spectrum disorder (ASD).

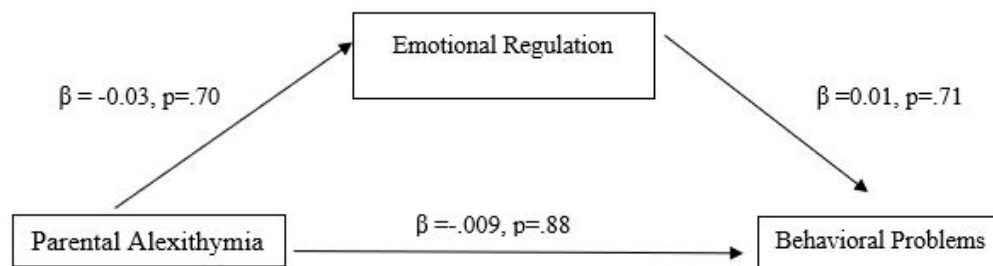


FIGURE 4.4: Path diagram illustrating emotion regulation as a mediator in the relationship between parental alexithymia and behavioral problems in children with ASD

The path diagram displays emotion regulation (ERC) as a mediator in the association between parental alexithymia (TAS) and behavioral problems (SDQ) in children with Autism Spectrum Disorder (ASD). The path from parental alexithymia to emotion regulation (path a) was negative and non-significant, indicating that higher levels of parental alexithymia had no meaningful relationship

with children's emotion management difficulties. Similarly, the path from emotion regulation to behavioral difficulties (path b) was positive but not significant, indicating that children's emotion control did not significantly predict behavioral problems in this model. The direct path from parental alexithymia to behavioral problems (path c') was additionally non-significant, suggesting that there is no direct relationship between parental alexithymia and behavioral difficulties in offspring. Furthermore, the total effect (route c) was non-significant, and the indirect effect ($a \times b$) through emotion regulation was not supported due to the confidence interval being zero. Overall, the path model shows that emotion regulation does not play a role in the relationship between parental alexithymia and behavioral problems in children with ASD. The lack of substantial direct and indirect effects suggests that parental alexithymia may not be a major contributor to behavioral disorders through emotion regulation mechanisms in the variables.

TABLE 4.8: Mann–Whitney U Test Showing Gender Differences in Parental Alexithymia ($N = 264$)

Variable	Mothers		Fathers		U	Z	p
	N	M	N	M			
Parental alexithymia	132	162.98	132	102.02	4688.00	−6.497	< .001*

Note. TAS = Toronto Alexithymia Scale; M = Mean; SD = Standard Deviation; p = significance.

Table 4.8 shows that the Mann–Whitney U test was conducted to determine any differences present in parental alexithymia (TAS) on the basis of gender among parents. This non-parametric test was utilized because of the violation of the normality assumption. The results depicted a significant difference in parental alexithymia between female and male parents ($U = 4688.00$, $Z = -6.497$, $p < .001$). Female parents showed a higher mean rank (Mean Rank = 162.98) in comparison with male parents (Mean Rank = 102.02), which demonstrated that female parents exhibited significantly higher levels of alexithymia as compared to male parents.

4.1 Summary of Findings

The study examined the relationship between parental alexithymia, children's emotion management, and behavioral issues in a sample of 264 ASD parents. Descriptive statistics revealed relatively high levels of parental alexithymia ($M = 78.40$, $SD = 6.10$) and behavior problems ($M = 69.50$, $SD = 6.30$), while emotional regulation scores were moderate ($M = 51.60$, $SD = 6.60$). Most scales had good internal consistency, according to reliability analyses, with the exception of behavioral disorders, which exhibited lower dependability among mothers. Normality tests (Kolmogorov-Smirnov) revealed considerable departures from the normal distribution; thus, nonparametric analyses were used.

In the entire sample, Spearman rho correlation analysis indicated no statistically significant relationships between parental alexithymia, emotion control, and behavioral issues. The correlations were weak in magnitude, indicating that the variables had little linear linkages. When analyses were undertaken separately for mothers and fathers, the results remained non-significant, demonstrating the absence of substantial relationships based on parent gender.

Using PROCESS Model 4 (Hayes and Watson, 2013), we investigated whether emotion regulation mediated the association between parental alexithymia and behavioral issues. The findings revealed that parental alexithymia did not significantly predict emotion regulation, nor did emotion regulation predict behavioral difficulties. Both the direct and indirect effects were non-significant, and the confidence interval for the indirect effect included zero. Therefore, emotion regulation did not mediate the relationship between parental alexithymia and behavioral problems.

Due to the non-normal distribution of the data, the Mann-Whitney U test was used to investigate gender differences. Mothers reported considerably greater levels of parental alexithymia compared to fathers ($U = 4688.00$, $p < .001$). Despite the gender difference in alexithymia levels, no gender-based disparities were found in the associations between parental alexithymia and child outcomes.

Overall, the findings show that parental alexithymia had no significant association with children's emotion management or behavioral problems in this group of ASD

parents. Furthermore, emotion regulation does not serve as a mediator in this interaction. The findings indicate that parental alexithymia qualities may not be the key predictor of behavioral or emotional outcomes in children with ASD in the current group.

Chapter 5

Discussion and Conclusion

The study aimed to explore how parental alexithymia, emotion regulation, and behavioral problems are related to children with Autism Spectrum Disorders (ASD) and how the genders and demographic characteristics of parents affect this relationship. On the whole, the results showed that despite rather high rates of alexithymia by the parents of children with ASD, parental alexithymia was not closely associated with emotion regulation among children and behavioral problems. Moreover, emotion regulation failed to come out as an intervening variable in the interplay between parental alexithymia and behavioral problems. The result findings indicate that in the present sample, parent related challenges in the perception and the expression of emotions may act independent of the outcome of behavioral-emotional regulation among children. These results can be interpreted in the light of the demographic profile of the sample. The sample was made up of equal number of mothers and fathers with most of them being of middle socioeconomic status, in nuclear family set up and working and married. Majority of parents were highly educated with more than fifty percent possessing a bachelor's degree and above and this could have led to adaptive coping resources though challenged by emotional processing. Moreover, the majority of children were found to be diagnosed with mild-moderate level of the severity of ASD that can be partially why there were no significant correlations between parental alexithymia and child outcomes. Children whose symptomatology is less severe might have fewer behavioral and emotional regulation and less impact of parental emotional traits can

be observed. The correlation analysis showed no significant relationships between parental alexithymia and behavioral problems or emotion regulation of children in a total sample and separately between mothers and fathers. Further, mediation analyses also verified that parental alexithymia was not a significant predictor of behavioral problems and difficulty in emotion regulation or that emotion regulation mediated this relationship. But an interesting exception was the gender difference where female parents had much higher levels of alexithymia than the male parents. This result suggests the criticality of gender when parental gender is taken into account when studying emotional functioning in parents with ASD and presents an important point of discussion.

5.1 Integration and Interpretation of Findings

5.1.1 Parental Alexithymia and Children's Emotion Regulation

The first objective of the present study was to examine whether parental alexithymia was associated with children's emotion regulation difficulties in Autism Spectrum Disorders (ASD). Contrary to theoretical expectations and prior assumptions, the findings indicated no significant relationship between parental alexithymia and children's emotion regulation in the overall sample. This lack of association remained consistent when the data were examined separately for female and male caregivers. Although the direction of some correlations aligned weakly with theoretical predictions, none reached statistical significance, suggesting that parental alexithymia alone may not be a sufficient explanatory factor for problems in emotion regulation among children with ASD.

These findings deviate from model that emphasize parental emotional awareness as a central mechanism in children's regulatory development ([Morris et al., 2007](#); [Eisenberg et al., 1998](#)). One possible explanation is that emotion regulation in children with ASD is strongly influenced by neurodevelopmental factors, including deficits in social communication, sensory processing, and executive functioning, which may overshadow the influence of parental emotional traits. Research has

shown that emotion regulation difficulties in ASD are often intrinsic to the disorder and persist even in emotionally supportive caregiving environments ([Mazefsky et al., 2013](#); [Ch'ng et al., 2015](#)).

The absence of a significant association may also reflect the presence of compensatory caregiving strategies. Parents who experience difficulties in identifying or expressing emotions may nonetheless rely on structured routines, behavioral interventions, or external professional support to assist their children's emotional development. In families of children with ASD, caregiving often becomes highly procedural and skills-based rather than emotionally driven, which may reduce the impact of parental alexithymia on children's regulation outcomes ([Karst and Van Hecke, 2012](#)).

Gender specific analyses further supported the robustness of the null findings. Among mothers, parental alexithymia showed a weak and non-significant association with children's emotion regulation, while among fathers the relationship was similarly weak and non-significant. These findings suggest that parental gender does not moderate the relationship between alexithymia and emotion regulation in the present sample. This contrasts with earlier assumptions that mothers' emotional functioning might exert a stronger influence due to their traditionally greater involvement in emotional socialization. However, contemporary caregiving models emphasize shared parenting roles, particularly in families managing developmental disorders, which may attenuate gender-specific effects ([Craig and Mullan, 2011](#)). Overall, the findings suggest that while parental alexithymia represents an important emotional characteristic, it may not directly translate into children's emotion regulation difficulties in ASD. Instead, emotion regulation outcomes in children with ASD appear to be shaped by a complex interplay of neurodevelopmental vulnerabilities, environmental supports, therapeutic interventions, and family-level adaptations. Future research should explore these relationships using longitudinal designs and multi-informant approaches to determine whether parental alexithymia exerts indirect or conditional effects under specific contextual circumstances.

5.1.2 Parental Alexithymia and Behavioral Problems in children with ASD

The second objective of the current study was to investigate the association between alexithymia in parents and the behavioral problems in children with Autism Spectrum Disorder (ASD). It was found that parental alexithymia did not significantly correlate with behavioral troubles in children in the general sample and also when the data was analysed individually between mothers and fathers. It means that, despite certain theoretical assumptions, behavioral problems in children with ASD are not necessarily directly predetermined by difficulties in emotional awareness in their parents. To some extent, these findings contradict the emotional socialization theories, which have it that emotional and behavioural control in children is heavily influenced by parental emotional competence. [Kochanska et al. \(2001\)](#) reveal that parents with difficulties in the ability to recognize and deal with the emotions can unwillingly contribute to an increase in the level of internalizing and externalizing issues in children. But, the existing evidence implies that these types of models might not be as applicable to the neurodevelopmental problems such as ASD where the underlying core deficits in the child might be more significant.

According to research done on the ASD population, behavioral issues are usually closely connected to the inherent traits of the disorder and not to parental traits of emotion. As an example, Kanne and Mazurek (2011) found repetitive actions or behaviors, sensory sensibilities and communication difficulties to be more predictive of externalizing and internalizing behaviors among children with ASD as compared to parental emotional factors. This is in line with the current projection that behavioral problems in ASD can largely be defined by the neurodevelopmental profile of the child, which includes executive functioning, social cognition problems, and sensory processing abnormalities ([Gabriels et al., 2008](#); [Mazefsky et al., 2013](#)). Thus, it can be theorized that the emotional characteristics of parents, such as alexithymia, should affect the behavior of their child, but in reality, their effect could be countered by the specific difficulties of ASD in children.

This was also shown with no significant differences between mothers and fathers with respect to alexithymia relationship and child behavior. It implies that even though the gender difference in parental emotional expression or care giving styles could be a factor in predicting behavioral outcomes among children with ASD, alexithymic tendencies by either parents do not significantly predict such outcomes. The potential reason behind this observation is that the parents of children with ASD tend to take part in behavior management trainings, including Applied Behavior Analysis (ABA), parent-mediated interventions, and structured reinforcement strategies ([Bearss et al., 2015](#)) ([Wong et al., 2015](#)). These interventions focus on observable behaviors, schedules of reinforcement and routine schedules instead of emotional sensitivity and parental affective responses. These intervention-based approaches can cushion children against the possible effects of parental emotional processing problems, which explains the possible reduction of the evident association between parental alexithymia and child behavior.

The other is the methodological aspect of the study. Parents rated their alexithymia and child behavioral problems with parent-reported measures, which may result in reporting biases. A higher number of alexithymic parents could be less sensitive to the minor emotional signals in their children or they might also make different interpretations of the internalizing behaviors as compared to more emotionally sensitive parents which could undermine the visible associations ([De Los Reyes and Kazdin, 2005](#)). Past researches have revealed differences in parent and clinician rating of behavior problems in children with ASD implying that parental characteristics such as stress, emotional awareness, and personality traits might have a role to play in the reporting process rather than actual behaviors of the child ([De Los Reyes and Kazdin, 2005](#)). This highlights the need to have multi-informant methods in future studies to combine parent reports with clinician observations, teacher ratings or objective behavioral measures to better represent the behavioral portrait of children with ASD.

Combining the existing evidence, the alexithymia of parents is not a direct or primary risk factor of children with ASD. Rather, child behavioral outcomes seem to be caused by a complicated interaction of factors, such as neurodevelopmental specifics of the child, exposure to organized behavioral interventions, organization

of the family environment, and more general systemic factors (Priego-Ojeda and Rusu, 2023; Ch'ng et al., 2015) Maliaars et al., 2014). These findings highlight the importance of considering a holistic and systems-based approach in the investigation of behavioral functioning among the ASD populations instead of only the parental features themselves. The determinants of behavioral problems in ASD require family processes, intervention experiences, and child-specific neurodevelopmental traits to be taken into consideration.

In general, although the emotional functioning of the parent is still a significant factor to consider in the overall well-being of the family and the mental health of the parent, the direct predictive utility of child behavioral issues in ASD may be not as high in the presence of structured interventions and environmental aids. The findings contribute to the existing evidence of child-centered interventions and environmental aids as the primary methods of addressing child-related behavioral issues in ASD, and parental emotional support still plays a role in minimizing stress among caregivers and overall improving the functioning of a family (Bearss et al., 2015) Wong et al., 2015).

5.1.3 Emotion Regulation and Behavioral Problems in Children with ASD

The third hypotheses results showed a weak positive and non-significant association between emotion control and behavioral issues in children with autism spectrum disorder. This shows that children's emotional regulation was not significantly related to their behavioral problems in the current group. The lack of a substantial link contradicts theoretical assumptions, as emotion regulation is frequently seen as a key process enabling behavioral adjustment in children. Previous research has found that difficulties with emotion regulation are connected with higher externalizing and internalizing behaviors, particularly in neurodevelopmental groups (Gross, 2015; Aldao et al., 2016). However, more recent evidence in ASD populations indicates that behavioral problems are influenced by a broader group of characteristics beyond emotion regulation, including sensory processing

impairments, cognitive rigidity, communication abnormalities, and environmental stressors (Mazefsky et al., 2013; Ch'ng et al., 2015).

One possible reason for the lack of a meaningful connection is that behavioral issues in ASD do not directly reflect emotion regulation capacity as measured by parent-report tools. Behaviors may be more closely related to impairments in social understanding, executive functioning, and adaptive flexibility than to conscious emotional control mechanisms. Furthermore, emotion regulation in ASD is increasingly recognized as a multidimensional phenomenon that may not be adequately represented by single-informant questionnaire assessments (Mazefsky et al., 2013; Ch'ng et al., 2015; Gross, 2015). Methodological considerations may also contribute to the weak relationship. The use of cross-sectional data reduces the ability to discern dynamic and situational variations in emotional and behavioral functioning (Maxwell and Cole, 2007). Furthermore, shared method variance from parent-report measures can minimize variability or hide genuine relationships across constructs. Overall, the data indicate that emotion regulation alone may not be a strong predictor of behavioral problems in children with ASD. Instead, complex and interacting neurodevelopmental, affective, and environmental factors are expected to shape behavioral problems, confirming current multidimensional models of ASD-related behavior (Mazefsky et al., 2013). Sameroff, 2009).

5.1.4 Gender Differences Among Alexithymic Parents

The results of the current study indicated that there is statistically significant gender difference in parental alexithymia with female parents expressing higher levels of alexithymia in comparison to male parents. This outcome partly disagrees with the previous assumptions that fathers usually have more problems with emotional awareness and expression. Rather, the existing evidence indicates that in such a situation, when parenting children with Autism Spectrum Disorders (ASD), mothers might find it more difficult to recognize and explain their emotions, which might be attributed to higher emotional and caregiving requirements. A possible cause of this observation is based on the unequal caregiving roles that are frequently taken by mothers with children with ASD. Mothers can often participate more

in day-to-day caregiving, coordination of therapy, emotional work and advocacy of children, potentially causing emotional fatigue and lack of emotional clarity in the long run. Emotional numbing and alexithymic characteristics have been consistently associated with chronic stress and the burden of care giving, especially among mothers of children with developmental disabilities (Hayes and Watson, 2013; Lai et al., 2015). Therefore, the reason why alexithymia scores were higher among female parents in the current study can have been due to stress-induced emotional suppression as opposed to emotion deficiency as a characteristic trait. These results are aligned with the studies indicating that mothers of ASD-affected children state that they experience psychological distress, burnout, and emotional overload more frequently than fathers (Bitsika and Sharpley, 2004; Rivard et al., 2014). The capability to attend and label internal emotional state, which is one of the central features of alexithymia, is vulnerable to emotional overload. On the contrary, fathers might be more inclined toward instrumental or task-focused approaches to coping and, as a result, subjective experiences of emotional confusion or emotional identification difficulty might be lower. Notably, but the gender differences in parental alexithymia were observed, the current research failed to find the gender differences in the relationships between the parental alexithymia and the child behavioral or emotional outcome. This is an indication that even though female parents indicated an elevated alexithymia, these emotional challenges did not result in different behavioral outcomes in children. This observation shows the strength and flexibility of family systems, in which compensatory parenting practices, shared parenting, and external resources can protect children against the emotional hardship that parents face. Altogether, the findings highlight the significance of addressing the gender of parents in studying emotional functioning in those who have children with ASD, as well as provide warnings against the possibility of direct or linear impact on the child outcomes. These clinical implications indicate that programs to help parents become more emotionally conscious are to include mothers and fathers with specific emphasis on maternal emotional health and caregiver stress. Future studies need to further suggest how maternal alexithymia might be either a temporary response to stress or less labile emotional characteristic in longitudinal designs and through qualitative study to understand

the lived affective experiences of parents who have children with ASD.

5.2 Summary of Interpretations

The current data suggest that parental alexithymia is not significantly connected with children's emotion management or behavioral issues in Autism Spectrum Disorder (ASD). Regarding the first aim, no statistically significant link was found between parental alexithymia and children's emotion regulation, either in the total group or when mothers and dads were evaluated separately. Although several associations followed the expected theoretical trend, they were weak and insignificant.

These findings undermine emotional socialization models that view parental emotional awareness as critical to children's regulation development. One probable reason is that emotion regulation difficulties in ASD are tightly linked to neurodevelopmental factors such as executive dysfunction, sensory processing abnormalities, and social communication deficiencies, which may obscure parental emotional qualities. Furthermore, families of children with ASD frequently rely on regular routines and intervention-based procedures, which may buffer the impact of parental emotional processing issues.

Similarly, the second aim found no significant link between parental alexithymia and children's behavioral problems. This shows that behavioral difficulties in children with ASD may be more closely related to the disorder's fundamental traits than to parental emotional awareness impairments. Previous research has shown that repetitive behaviors, sensory sensitivities, and communication impairments are better predictors of internalizing and externalizing issues in ASD than parental affective features. Furthermore, widespread participation in behavioral therapies like Applied Behavior Analysis (ABA) and parent-mediated programs may help to minimize the harmful effects of parental alexithymia. Methodological issues, such as dependence on parent-reported measures, could possibly have influenced results due to perceptual and reporting biases.

The mediation analysis further supported these null findings. Emotion regulation did not mediate the relationship between parental alexithymia and children's behavioral problems, as neither direct nor indirect pathways were statistically significant. This suggests that parental alexithymia and child emotion regulation, when examined independently, may not sufficiently explain variability in behavioral outcomes in ASD. Instead, child behavioral functioning likely reflects a multidimensional process involving neurodevelopmental vulnerabilities, family dynamics, intervention exposure, and broader contextual factors. The results underscore the need for more comprehensive and systemic models incorporating mediators such as parenting stress, quality of parent-child interaction, and social support.

Finally, while there was a significant gender difference in parental alexithymia (mothers reported greater levels than males), this difference did not translate into different child outcomes. Mothers' heightened alexithymia may be due to stress-related emotional tiredness from increased caregiving responsibilities, rather than chronic emotional impairments. Importantly, parental gender did not influence the connection between alexithymia and child behavioral or emotional outcomes. This research emphasizes the resilience and adaptability of family systems, implying that compensatory parenting methods and structured supports may shield children from the negative impacts of parental emotional issues.

5.3 Implications

5.3.1 Clinical Implications

The clinical implications of the findings of the current research are significant to the practitioners dealing with families of children with Autism Spectrum Disorder (ASD) diagnosis. The finding that parental alexithymia was not significantly related with emotion regulation and behavioral problems in children, however, the fact that parents especially mothers have high levels of alexithymic traits underlines the importance of considering the emotional well being of parents, as one of the components of care based on family. These results indicate that parental alexithymia may not have a direct relationship with child outcomes, but it is still

clinically important to help parents learn about their emotional experiences and how to deal with them. Interventions must thus follow a supportive, preventive approach, which aims at alleviating parental alexithymia, emotional exhaustion, and burden of caregiver instead of taking an active causal role of alexithymia as a contributory factor to child psychopathology. These interventions could be beneficial (emotion-related parental support, stress management intervention, and psychoeducation) because they could allow parents to better handle the emotional burden of raising a child with ASD and improve overall family functioning even though immediate changes in child behavior may be impossible to see.

5.3.2 Educational Implications

Educationally, the research highlights the value of comprehensive and family-based support systems in schools and rehabilitation facilities that cater to the children with ASD. Since parental alexithymia did not have a direct relationship with the emotional and behavioral outcomes of children, teachers and school-based practitioners must not attribute the child problems to their parental emotional characteristics. Rather, it should focus on constructive relationships with parents that avoid attempt of blame.

Schools can especially be instrumental as they can provide parent psychoeducation programs, which emphasize coping, emotional self-care, and effective communication with the professionals. Educators and school psychologists should be trained to understand symptoms of parental emotional overload, as opposed to emotional deficiency, so that they can have a more approachable and caring relationship with children with ASD and increase the consistency of both educational and therapeutic planning.

5.3.3 Implications on a Community Level

The results of the given research indicate that the emotional functioning of parents should be considered on a community-wide level because supportive services toward parents of children with Autism Spectrum Disorder (ASD) should be more

readily available and accessible to every parent. The goal of such services must not be only to offer practical advice on how caregiving can be done but also to help parents, especially mothers, with the emotional strains and stressors of raising children with ASD. Emotional restraint and self-sacrifice are commonly appreciated qualities in parents especially mothers in most cultures such as in Pakistan, hence emotion suppression and worsening alexithymia tendencies may occur. This repression can also become a limitation on the capacities of parents to interact well with their children, and community programs that make bereavements a norm and legitimize the difficulties faced by parents are necessary.

Cognitive behavioral therapy The community mental health programs must aim at enhancing emotional intelligence and educating parents to recognize and know their feelings and those of their children. Such programs can equip parents with techniques to cope with the stress of care giving better by creating more emotional awareness to promote adaptive coping mechanisms but not to reinforce inadequacy or failure. It is possible to provide safe spaces to express emotions, such as support groups, workshops, or community counseling, to ensure that parents share experiences, offer each other feelings of support, and diminish the sense of isolation that usually comes with caring to children with ASD.

Further, there is a need to promote culturally sensitive support networks. The programs must honor and absorb local norms and values and slowly promote the more open emotional talk and problem-solving approaches. The community programs that can empower parents to be more responsive and emotionally supportive towards their children can be achieved through focusing on emotional well-being as the strength, not a deficit. Not only can this strategy help parents to remain mentally healthy, but also, indirectly, impact the child outcomes through the establishment of a more relaxed, more orderly and emotionally accessible setting of care.

Moreover, psychoeducation on ASD and child development, resilience training, and parental alexithymia management should be included in community-level interventions. The parenting strategies are more effective when parents are provided with methods of controlling their own emotional reactions so that when their children have to be considered, they are less inclined to become overwhelmed and

reactive. This full-scale assistance can strengthen family unity, decrease burnout, and the overall family effectiveness, thus, creating healthier conditions in ASD children families.

Lastly, the results show that although the parental alexithymia might not directly solve the issues in child behavior, it is important in establishing long-term family resiliency. With the emphasis on parent-based interventions and child-focused therapeutic approaches, communities will be able to develop holistic support systems cleaning up the short-term and long-term issues related to raising a child with ASD. By embedding these services within the current structures of health-care and education, it is possible to make sure that parents could be able to access the resources, guidance, and support on a regular basis, which will ultimately lead to adaptive results in both the children and the family in terms of the influx into the wider social environment.

5.3.4 Consequences of Gender Differences

Such a strong gender disparity in parental alexithymia, with higher incidences among female parents compared to male parents, has some valuable implications to intervention design. This observation indicates that maternal emotional stress or emotional subduction or even burnout, but not necessarily low emotional awareness may be a characteristic of mothers of children with ASD.

The interventions need to be gender-sensitive and thus focus more on maternal emotional support, reduction of stress and validation of care giving demands, and also promote the involvement of fathers in emotional and care giving processes. Notably, the fact that gender differences do not determine child outcomes also indicates that the two parents are equally useful in correcting emotional difficulties, which supports the importance of joint parenting and a family-based practice.

5.4 Limitations

Although this is the case, the present study is limited in a number of ways that must be taken into account when interpreting the findings.

5.4.1 Use of Self-Report Measures

One major weakness of this study is its dependence solely on self-report measures to assess parental alexithymia, children's behavioral difficulties, and children's emotion control. Standardized and well validated measures were used, including the Toronto Alexithymia Scale (TAS-20), the Strengths and Difficulties Questionnaire (SDQ), and the Emotion Regulation Checklist (ERC). These techniques have shown appropriate reliability and validity in a variety of populations (Bagby et al., 1994; Goodman, 2001; Shields & Cicchetti, 1997). However, despite their psychometric merits, self-report questionnaires are prone to a variety of biases.

First, social desirability bias may have influenced parental responses, especially in cultures where parenting expertise and family functioning are highly prized. Parents may underreport emotional difficulties or child behavioral issues in order to show themselves in a more positive manner. Second, recall bias may have influenced accuracy, particularly when reporting child behavioral problems that vary across contexts and time. Third, and most importantly, assessing alexithymia via self-report creates conceptual problems. Alexithymia is defined as having difficulties identifying and describing internal emotional states (Taylor et al., 1999). Individuals with strong alexithymia may lack the introspective capacity required to appropriately assess their own emotional inadequacies. This paradox implies that self-reported alexithymia scores may understate the underlying severity of emotional processing issues.

Furthermore, using a single informant (parents) to report both independent and dependent variables raises the possibility of shared method variance. When the same person reflects on their own emotional functioning and their child's conduct, correlations can be overstated or reduced due to perceptual biases rather than genuine relationships (Podsakoff et al., 2003). For example, emotionally upset parents may see child behaviors as more harmful, but emotionally avoidant parents may downplay concerns. Previous study has repeatedly found inconsistencies between parent, teacher, and clinician accounts in ASD populations (De Los Reyes and Kazdin, 2005). As a result, the use of self-report measures may have contributed to the study's lack of meaningful relationships.

Future research should use a variety of evaluation methodologies, including clinician-administered interviews, behavioral observations, physiological measurements of emotional processing, and teacher-based assessments of child behavior. Such techniques would decrease mono-method bias and provide a more complete picture of the constructs being studied.

5.4.2 Cross-Sectional Research Design

Another significant drawback is the cross-sectional character of the study design. The study collected data at a single point in time, limiting the capacity to draw causal or developmental conclusions. Although correlational and regression analyses were used to investigate predictive correlations, they cannot demonstrate temporal precedence, which is a necessary condition for causal inference ([Maxwell and Cole, 2007](#)).

The theoretical basis for this study assumes that parental emotional qualities can influence children's emotion control, which can then effect behavioral results. However, cross-sectional mediation analysis has methodological limitations since it fails to capture the temporal ordering required to validate mediation pathways ([Maxwell and Cole, 2007](#)). Without longitudinal data, it is unclear whether parental alexithymia predicts child emotion regulation difficulties, whether child behavioral obstacles exacerbate parental emotional discomfort, or if bidirectional interactions exist.

Developmental psychopathology models focus on transactional mechanisms in which parent and child characteristics impact one another over time (Sameroff, 2009). These reciprocal interactions may be especially important in families with children with ASD. For example, recurrent child behavioral issues may increase parental stress and emotional suppression, thereby enhancing alexithymic features. In contrast, parental emotional limits may influence early co-regulation mechanisms during important developmental periods. A cross-sectional study cannot separate these diverse developmental pathways.

Furthermore, ASD is distinguished by developmental variation. Emotion regulation skills and behavioral expressions evolve during childhood and adolescence,

impacted by cognitive development, intervention exposure, and environmental support networks. Because the current study only captures one time point, it presents a snapshot rather than a dynamic developmental picture. Longitudinal studies that use repeated assessments throughout different developmental stages would enable researchers to better explore patterns of stability, change, and reciprocal influence.

5.4.3 Limited Scope of Predictors

The other weakness is that the research concentrated on alexithymia of parents as one emotional characteristic and did not incorporate other useful variables of parents, including parenting stress, depression, anxiety, coping, and parental emotion regulation. These aspects often interact with alexithymia and can have high or closer impacts on the emotional and behavioral outcomes in children. These variables were omitted which could have led to the insignificant results and restricts the explaining capacity of the existing models.

5.4.4 Absence of Multi-Informant and Observational Data

Another significant drawback is a lack of multi-informant data and direct observational assessments. Parental reports were the sole means of assessing child behavioral problems and emotional management. Best practices in developmental research encourage using numerous informants since children frequently respond differently in diverse circumstances (Achenbach et al., 1987).

Teachers can identify peer-related challenges or classroom emotional dysregulation that are not present at home, whereas clinicians may uncover symptom patterns using standardized examinations. Informant inconsistencies are widespread and can provide useful information about contextual variability (De Los Reyes and Kazdin, 2005). Relying solely on parental impressions may have reduced the accuracy of child functioning assessments.

Furthermore, observational methods like parent-child interaction coding systems could have offered objective measures of co-regulation processes, emotional responsiveness, and behavioral management strategies. Observational data are very useful in ASD research, as social-communication patterns are critical to understanding emotional development.

The absence of these approaches could have compromised measurement validity, contributing to null results. Future studies should include teacher comments, clinician-administered scales, and laboratory-based interaction activities to improve construct validity.

5.4.5 The Sampling and Cultural Context of the Study

The study sample comprised mostly of Pakistani families, with the majority coming from middle-class origins and having nuclear family arrangements. While this gives useful information on an underrepresented demographic in ASD research, it restricts generalizability. Cultural norms strongly influence emotional expression, parenting roles, and perceptions of child behavior ([Ryder et al., 2011](#)).

In collectivist cultures, emotional restraint may be seen socially acceptable and not always indicative of severe alexithymia. Gender roles can also influence caregiving expectations and emotional reporting patterns. Mothers, for example, frequently shoulder major caregiving obligations, which can increase stress and emotional weariness.

Furthermore, healthcare access, stigma surrounding developmental problems, and the availability of intervention programs vary greatly by region. These contextual influences may have an impact on both parental emotional functioning and kid behavioral outcomes. Because demographic characteristics were not systematically examined as moderators, the study was unable to investigate how socioeconomic status, educational level, or family structure may interact with parental alexithymia.

Future research should include culturally diverse samples and cross-cultural comparisons to discover whether the findings are universal or specific.

5.4.6 Interventions and Exposure to ASD Severity

Despite the reporting of the level of severity of the diagnostic severity in children, the study failed to control the exposure of the children to the intervention, including behavioral therapy, parent-training programs, or school-based supports. Random errors in exposure to interventions and time of intervention could have diluted parental emotional traits-child outcome links. Children undergoing intensive interventions might have better behavioral functioning or emotion regulation in spite of parental alexithymia hence covering the effects in a narrower range.

5.5 Recommendations

5.5.1 Recommendations for Future Research

Future research should use longitudinal designs to better explore the relationship between parental alexithymia, children's emotion control, and behavioral outcomes. Longitudinal data would help establish temporal precedence and clarify whether parental emotional difficulties influence child functioning, child behavioral challenges affect parental emotional states, or if bidirectional relationships exist over time ([Maxwell and Cole, 2007](#)).

It is also suggested that future studies use multi-informant and multi-method assessment methodologies. Incorporating teacher reports, clinician-administered measures, and observational methods can improve construct validity while decreasing shared method variation (De Los Reyes et al., 2015; Makol et al., 2020).

Observational assessments, particularly of parent-child interactions, are critical in autism research, as social communication and co-regulation processes are key. Future study should broaden the scope of parental predictors evaluated. Parenting stress, sadness, anxiety, coping methods, and parental alexithymia have all been demonstrated to have a major impact on children's emotional and behavioral problems, and they frequently interact with alexithymia. Including these factors would result in a more comprehensive model with more explanatory power.

In addition, researchers should use objective or performance-based measures of emotional functioning. Alexithymia is characterized by emotion regulation impairments, hence self-report techniques may underestimate its severity. Performance-based assessments, such as emotion recognition tasks, can yield more accurate results (Brewer et al., 2016).

Cross-cultural research is strongly recommended. Future studies should include culturally diverse samples to explore how cultural norms influence emotional expression, parenting practices, and reporting patterns (Mesquita et al., 2016; Ryder et al., 2011).

Finally, future research should control for intervention-related variables, including the type, duration, and intensity of therapies (e.g., behavioral therapy, parent training programs, and school-based interventions). Intervention exposure can significantly influence child outcomes and may mask the effects of parental emotional characteristics (Postorino et al., 2017).

5.5.2 Clinical and Therapeutic Recommendations

Clinical practice should use a family-centered, supportive approach. Although parental alexithymia did not significantly predict child outcomes, parental alexithymia is still critical for good caregiving and family functioning. Clinicians are advised to incorporate psychoeducation programs that increase emotion regulation, emotion recognition and expressiveness training, stress management and coping strategies (Gross, 2015 ; Weiss et al., 2021).

Improving parental alexithymia has been associated with greater caregiving quality and overall family adjustment in ASD populations (Weiss et al., 2021). Given the increased levels of alexithymia observed in mothers, gender-sensitive therapies are advised. These should focus on minimizing maternal emotional burden while increasing father involvement, which has been linked to better developmental outcomes in children (Flippin and Crais, 2011).

Furthermore, clinicians should incorporate parent-child interaction-based interventions that improve co-regulation, emotional responsiveness, and communication,

all of which are important mechanisms for promoting emotion regulation development in children with ASD.

5.5.3 Educational Recommendations

Educational institutions should encourage collaboration between parents and professionals. Teachers and school psychologists should use a non-blaming and supportive perspective, acknowledging that child behavioral challenges are influenced by many factors other than parental emotional qualities. Schools are urged to offer parent training programs for behavior management and emotional support, provide tips on promoting emotion management at home, train employees to spot indicators of parental stress and emotional exhaustion. Multi-informant assessments are also recommended in educational settings, as children's behavior differs between contexts (Makol et al., 2020).

Furthermore, implementing social-emotional learning (SEL) programs can improve children's emotional competences while decreasing behavioral issues, especially in neurodevelopmental populations.

5.5.4 Community-Based Recommendations

At the community level, there is a need to create accessible and culturally sensitive support services for parents of children with autism. Recommended initiatives include parental support groups, counseling and Mental Health Services, stress management and resilience-building programs. In collectivist societies, emotional restraint can be socially reinforced, contributing to emotional repression. As a result, community initiatives should provide safe and stigma-free settings for emotional expression (Mesquita et al., 2016).

Public awareness campaigns should aim at reduce the stigma associated with developmental problems, increase your grasp of parental emotional issues, and encourage help-seeking behavior.

5.5.5 Policy and Practice Recommendations

Policymakers should encourage family-centered care models in autism services. They should include routine assessment of parents' emotional well-being, inclusion of parents in intervention planning, and access to inexpensive and culturally relevant mental health services. To ensure comprehensive care, psychologists, educators, speech therapists, and occupational therapists should work together more closely (Sameroff, 2009).

5.5.6 Research-Practice Integration

Finally, increased collaboration between academics and practitioners is recommended to guarantee that study findings are effectively translated into practice. Interventions should be evidence-based and culturally appropriate in order to be more relevant and effective in local settings.

5.6 Conclusion

The relationships of parental alexithymia, parental emotion regulation and behavior problems in children with Autism Spectrum Disorder (ASD) studied were complex and the mediator of the relationships was parental emotion regulation with or without gender difference among the parents. In general, the results give subtle information about the emotional operations of families, who have a child with ASD, and dispel the idea of the immediate predictive effect of parental alexithymia on the behavioral outcomes of the child. Although earlier studies have specifically focused on the importance of the emotional characteristics of parents on children development (Costa et al., 2019; Maskey et al., 2013), the present results indicate that parental alexithymia, alone, may not explain all the behavioral and emotional challenges in children with ASD, which shows that these mechanisms are multidimensional and complex.

The findings reveal that the alexithymia of parents did not create significant correlations with the challenges of emotion regulation and behavioral problems in

children with ASD as well as the total sample and as analyzed in regards to parent gender. In the same way, the mediation analysis showed that emotion regulation was not a significant mediator in this relationship. These results allude to the fact that parental alexithymia is not enough to explain child behavioral difficulties. Rather, it presents the significance of taking into consideration more general aspects, such as neurodevelopmental peculiarities of ASD, family life, environmental factors, and access to therapeutic services, in determining child behavioral and emotional consequences (Rovane et al., 2025; Gormley et al., 2022). That is, child behavioral outcomes in ASD seem to be determined by interactions of several determinants, not parental characteristics.

Another interesting discovery made in the study is the considerable gender disparity in parental alexithymia where mothers report higher levels of alexithymia as compared with fathers. This difference probably represents differences in the caregiving demands, exposure to the daily stressors of care giving, and the emotional work that is usually carried out by mothers as opposed to inherent gender-related differences in the emotional work (Karst and Van Hecke, 2012; Hayes and Watson, 2013). Nevertheless, even with these gender-based disparities in parental alexithymia, there were no differences that were shown on child behavioral outcomes. This indicates that families can withstand stress and be adaptive and that child development can be buffered by a wider family functioning or coping strategies or external support systems despite parental emotional troubles (Ch'ng et al., 2015). These findings support the perception that parenting and child outcomes in ASD need to be conceptualized in a complex multi-layered systemic framework.

Altogether, the results highlight the key significance of larger environmental, neurodevelopmental, and family-system influences on defining the behavioral and emotional consequences in children with ASD. The findings support the idea that child development as a phenomenon should be multidimensional in its approach where emotional characteristics of parents are to be integrated with care giving situation, socio-cultural variables, exposure of interventions, and child-related factors.

As an example, it has been proposed that both child behavior and family functioning based intervention can lead to beneficial child emotional control and behavioral issues minimization regardless of the initial parental alexithymia (Morelen et al.,

2016; [Husmann et al., 2026](#)). This confirms the notion that parental emotional characteristics change efforts alone might not be effective and a comprehensive family-based strategy has a higher probability of bringing significant changes in the child outcomes.

Lastly, these findings indicate that additional studies using longitudinal and multi-method designs, such as multi-informant reporting with parents, teachers, and clinicians, are necessary to better understand the complex processes of development that contribute to children with ASD ([Mazefsky et al., 2013](#); [Thompson, 1994](#)). Additionally, the research should be culturally sensitive especially in non-Western such as Pakistan where there can be significant variation in the structures of the family and care giving styles as well as expression of emotions compared to the western population ([Khan and Shabbir, 2019](#); [Bornstein, 2013](#)). Future research must also include the possible protective variables, including parental coping mechanisms, social support and availability of interventions that might mitigate effects of parental emotional troubles on child behavioral consequences. Overall, the presented study can help the scientific community understand the issue of ASD-associated developmental challenges by highlighting the shortcomings of one-factor explanations, the need to consider the multidimensional nature of the problem, and the need to inform the creation of culturally competent and family-centered interventions.

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Appendix A Informed Consent

I am the student of Masters in Psychology at Capital University of science and technology at Islamabad. I am conducting a study on “Analysis of the relationship between parental alexithymia, emotion regulation, and behavioral problems in children with autism spectrum disorders”. The purpose of the study is to analyze the relationship between the parental alexithymia, emotion regulation, and behavioral problems in children with autism spectrum disorders.

All information gathered during data collection will be kept confidential. The data will be securely kept. Your participation in this study is completely voluntary. You have the right to reject participation or withdraw at any point throughout the research.

By signing below, you acknowledge that you have read and understood the information above. You voluntarily agree to participate in this research study. You are free to withdraw from the study at any time without any penalty or loss of benefits.

Participant’s Signature: _____

Date: _____

Appendix B Demographic Information Sheet

Parent/Guardian Information

Name (optional): _____

Age:

☐ 20–30 years

☐ 31–40 years

☐ 41–50 years

Gender:

☐ Male

☐ Female

Relationship to Child:

☐ Father

☐ Mother

Marital Status:

☐ Divorced

☐ Widow

☐ Married

Employment Status:

- ☐ Employed
- ☐ Unemployed

Highest Level of Education Completed:

- ☐ Matric
- ☐ Inter
- ☐ BS/BA
- ☐ MS/MA
- ☐ Phd

Number of children

- ☐ 1–3 childs
- ☐ 4–6 childs
- ☐ 7–9 childs

Child diagnosis

- ☐ Mild
- ☐ Mild to moderate
- ☐ Moderate
- ☐ Moderate to severe
- ☐ Severe

Appendix C Toronto Alexithymia Scale (TAS)

Instructions

Please read each statement carefully and indicate how much you agree or disagree with the statement. Rate your level of agreement on a scale of 1 to 5, where:

- 1 represents “Strongly Disagree”
- 2 represents “Disagree”
- 3 represents “Neither Agree nor Disagree”
- 4 represents “Agree”
- 5 represents “Strongly Agree”

Statement	1	2	3	4	5
1. I am often confused about what emotion I am feeling.					
2. It is difficult for me to find the right words for my feelings.					
3. I have physical sensations that even doctors don't understand.					
4. I am able to describe my feelings easily.					

Statement	1	2	3	4	5
5. I prefer to analyze problems rather than just describe them.					
6. I prefer talking to individuals about their daily activities rather than their feelings.					
7. I find it hard to imagine what it would be like to be in someone else's shoes.					
8. When I am upset, I don't know if I am sad, frightened, or angry.					
9. I am often puzzled by sensations in my body.					
10. I prefer to just let things happen rather than understand why they turned out that way.					
11. I have feelings that I can't quite identify.					
12. Being in touch with emotions is essential.					
13. I find it hard to describe how I feel about individuals.					
14. Individuals tell me to describe my feelings more.					
15. I don't know what's going on inside me.					
16. I often don't know why I am angry.					
17. I prefer talking about daily activities rather than feelings.					
18. I prefer to watch "light" entertainment shows rather than psychological dramas.					
19. It is difficult for me to reveal my innermost feelings, even to close friends.					
20. I can feel close to someone, even in moments of silence.					

Appendix D Strengths and Difficulties Questionnaire (SDQ)

Instructions:

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of your child's behaviour over the last six months.

Strengths and Difficulties Questionnaire	Not True	Somewhat True	Certainly True
1. Considerate of other individuals' feelings			
2. Restless, overactive, cannot stay still for long			
3. Often complains of headaches, stomach-aches or sickness			
4. Shares readily with other children, for example toys, treats, pencils			
5. Often loses temper			
6. Rather solitary, prefers to play alone			

Strengths and Difficulties Questionnaire	Not True	Somewhat True	Certainly True
7. Generally well behaved, usually does what adults request			
8. Many worries or often seems worried			
9. Helpful if someone is hurt, upset or feeling ill			
10. Constantly fidgeting or squirming			
11. Has at least one good friend			
12. Often fights with other children or bullies them			
13. Often unhappy, depressed or tearful			
14. Generally liked by other children			
15. Easily distracted, concentration wanders			
16. Nervous or clingy in new situations, easily loses confidence			
17. Kind to younger children			
18. Often lies or cheats			
19. Picked on or bullied by other children			

Strengths and Difficulties Questionnaire	Not True	Somewhat True	Certainly True
20. Often volunteers to help others (parents, teachers, other children)			
21. Thinks things out before acting			
22. Steals from home, school or elsewhere			
23. Gets along better with adults than with other children			
24. Many fears, easily scared			
25. Good attention span, sees chores or homework through to the end			

Appendix E Emotion Regulation Checklist (ERC)

Instructions:

Please rate how often this child exhibits the following behaviours or emotional states.

Statements	Rarely or Never	Sometimes	Often	Almost Always
1. Is a cheerful child	1	2	3	4
2. Exhibits wide mood swings (child's emotional states difficult to anticipate because s/he moves quickly from positive to negative moods).	1	2	3	4
3. Responds positively to neutral or friendly overtures by adults [responds positively to polite or friendly adults].	1	2	3	4

Statements	Rarely or Never	Sometimes	Often	Almost Always
4. Transitions well from one activity to another; does not become anxious, angry, distressed or overly excited when moving from one activity to another.	4	3	2	1
5. Can recover quickly from episodes of upset or distress (for example, does not pout or remain sullen, anxious or sad after emotionally distressing events).	4	3	2	1
6. Is easily frustrated.	1	2	3	4
7. Responds positively to neutral or friendly overtures by peers [Responds positively to polite or friendly peers].	1	2	3	4
8. Is prone to angry outbursts / tantrums easily.	1	2	3	4
9. Is able to delay gratification.	4	3	2	1

Statements	Rarely or Never	Sometimes	Often	Almost Always
10. Takes pleasure in the distress of others (for example, laughs when another person gets hurt or punished; enjoys teasing others).	1	2	3	4
11. Can modulate excitement [Can control his/her excitement] (for example, doesn't get "carried away" in high-energy play situations or overly excited in inappropriate contexts).	4	3	2	1
12. Is whiny or clingy with adults.	1	2	3	4
13. Is prone to have disruptive outbursts of energy and exuberance [excitement].	1	2	3	4
14. Responds angrily to limit-setting by adults.	1	2	3	4
15. Can say when s/he feels sad, angry or mad, fearful or afraid.	1	2	3	4
16. Seems sad or listless.	4	3	2	1

Statements	Rarely or Never	Sometimes	Often	Almost Always
17. Is overly exuberant [excited and energetic] when attempting to engage others in play.	1	2	3	4
18. Displays flat affect [doesn't show much emotion when you would expect it] (expression is vacant or inexpressive; child seems emotionally absent).	4	3	2	1
19. Responds negatively to neutral or friendly overtures by peers [Responds negatively to polite or friendly peers] (for example, may speak in an angry tone of voice or respond fearfully).	1	2	3	4
20. Is impulsive [Can't control him/herself].	1	2	3	4
21. Is empathic [sympathetic] towards others; shows concern when others are upset or distressed.	1	2	3	4

Statements	Rarely or Never	Sometimes	Often	Almost Always
22. Displays exuberance [energy and excitement] that others find intrusive or disruptive.	1	2	3	4
23. Displays appropriate negative emotions (anger, fear, frustration, distress) in response to hostile, aggressive, or intrusive acts by others.	1	2	3	4
24. Displays negative emotions when attempting to engage others in play.	1	2	3	4

Appendix F

 Capital University of Science & Technology
Your Journey Awaits

Islamabad Expressway,
Kahuta Road Zone V,
Islamabad Pakistan.
T +92 (51) 111 555 666
+92 (51) 448 6700
F +92 (51) 448 6705
E info@cust.edu.pk
W www.cust.edu.pk

Ref: CUST/FMSS/REC/2025-03
March 26, 2025

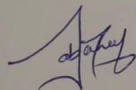
RESEARCH ETHICS COMMITTEE CERTIFICATE OF REVIEW AND SUPPORT

This is to certify that Project titled: "Analysis of the Relationship between Parental Alexithymia, Emotion Regulation, and Behavioral Problems in Children with Autism Spectrum Disorder" submitted by Scholar: Esther Joy MSP231016 and supervised by: Dr. Ishrat Yousaf reviewed by the Research Ethics Committee of Faculty of Management and Social Science, meets the requirements of the American Psychological Association's Ethical guidelines for Human Research and is **REVIEWED** and **APPROVED** by Research Ethics Committee of Faculty of Management and Social Sciences.

It is the Scholar's responsibility to ensure that all researchers associated with this project are aware of the conditions of approval and which documents have been approved.

The Scholar is required to notify the Research Ethics Committee in case of any amendment in the project, specifically:

- Any significant change to the project and the reason for that change, including an indication of ethical implications (if any)
- Serious adverse effects on participants and the actions taken to address those effects
- Any other unforeseen events or unexpected developments that merit notification
- The inability of the Principal Investigator to continue in that role, or any other change in research personnel involved in the project
- A delay of more than 12 months in the commencement of the project; and,
- Termination or closure of the project.


Dr. Sabahat Haqqani
Convener, Research Ethics Committee
Faculty of Management and Social Sciences
Capital University of Science and Technology
Islamabad

Appendix G

