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Siblings Dynamics In Neuro Typical Vs. Autistic: A Comparative Study Of Emotional And Behavioral Challenges With The Influence Of Social Support

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Abstract

While most Autism Spectrum Disorder (ASD) research focuses on causes or parents, we still know very little about the emotional and behavioral struggles of the siblings. This study aims to bridge the gap by examining the emotional and behavioral challenges faced by siblings of individuals with the diagnosis of ASD in comparison to siblings of neurotypical individuals; moderating the role of perceived social support on these challenges. A quantitative survey-based approach was employed, involving N = 300 participants aged 14–17 years, recruited through convenience sampling from across Karachi. Participants were divided into two groups: siblings of individuals with ASD (Group A) and siblings of neurotypical individuals (Group B). Standardized measures were used to collect data followed by statistical analyses. Findings revealed that Group A (M=49.080, SD= 6.162) scored significantly higher on emotional and behavioral difficulties (M=30.626, SD=11.915) p < .001. Whereas, perceived social support was higher in Group B (M=356.346, SD=50.747) (M=279.313, SD=33.734). Moreover, perceived social support was negatively correlated with emotional and behavioral problems in both groups (p < .01) but it is stronger in Group B. Further the perceived social support significantly buffered the impact of sibling group on emotional and behavioral difficulties (B = -0.072, p < .001), suggesting that social support reduced the severity of challenges among siblings of individuals with ASD. These findings highlight the importance of stronger support networks to protect the vulnerable siblings of autistic individuals.

Keywords: *Sibling Dynamics, Neurotypical vs Autistics siblings, Emotional & Behavioral Challenging, Perceived Social Support*

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INTRODUCTION

Background

The neurological illness known as autism spectrum disorder (ASD) is marked by a lack of curricular interests, recurrent behaviors, and deficiencies in social communication (APA, 2013). It results from an interplay of external influences, intricate, unique genetic abnormalities (Abbeduto, 2019; Centre for Disease & Control Prevention, 2022). People with autism spectrum disorder struggle with executive functioning and sensory processing, which makes it difficult for them to sustain and participate in social interactions (APA, 2013).

Concerns have recently been raised over Pakistan's increasing autism incidence. Autism was somewhat more common in Pakistani children (2.57/1,000). Pakistani children had greater rates of hearing and visual issues, as well as significant learning challenges (Morton et al. 2002). According to reports, the prevalence of ASD has tripled over the past 30 years (Nadeem et al., 2020). The incidence of ASD is 0.6% worldwide, with a particularly elevated 0.4% prevalence in Asia (Salari et al., 2022). Due to societal stigma, there are no accurate data on the incidence of ASD in Pakistan. Yet, using Pakistan Autism Society around 350,000 children in Pakistan have ASD (Khalid et al., 2020). Accordingly, 4.5% of new patients were registered among 200 people in Karachi, as reported by certain hospital-based research conducted in Pakistan (Ayes Sarwat et al., 2009). Similarly, 3.2% of 1000 individuals from Lahore (Imran et al., 2012) and 5.3% of 169 persons from Rawalpindi (Tareen et al., 2009).

While much research has focused on understanding the difficulties faced by people with Autism, there is a need to investigate the effect of having a sibling with ASD on emotional and behavioral health (Hastings & Brown, 2002; Orsmond et al., 2004).

Siblings of individuals with autism encounter distinct challenges and stressors within the family system. They may experience higher levels of caregiver responsibilities, reduced parental attention, and disrupted family routines (Rodrigue et al., 1990). These factors, along with the inherent complexities of having a diagnosed sibling with ASD, can potentially contribute to having behavioral and emotional problems in siblings.

Research has indicated that brothers and sisters of individuals with ASD are at a higher probability for developing behavioral and emotional problems compared to their peers (Smith et al., 2012; Stoneman, 2005). However, the specific prevalence and nature of these problems among this population remain less understood. Further investigation is needed to determine the range and severity of these problems experienced by siblings of individuals with autism (Hastings & Brown, 2002; Orsmond et al., 2004).

Social support can help mitigate the stressors correlated with having a sibling or cousin or any other family member with ASD. In research by Theodore S Tomeny

and his colleagues in 2018, it was found that those who considered social support as highly important but infrequent experienced the most significant emotional and behavioral challenges and vice versa (Tomeny et al., 2019).

Gaining an understanding of the prevalence and specific types of behavioral problems and the emotional problems faced by siblings of individuals with an autism diagnosis is crucial for several reasons. Firstly, it provides valuable insights into the overall mental health and quality of life of these siblings (Bitsika & Sharpley, 2004). This knowledge is essential for promoting their well-being, resilience, and positive outcomes (Smith et al., 2008). By identifying and addressing these problems, healthcare professionals, educators, and families can provide appropriate resources and support to facilitate the general growth and psychological well–being of these individuals. (Baker-Ericzén et al., 2005).

Furthermore, the findings of this research can inform the development of support strategies and interventions specifically tailored to family members of individuals with ASD who experience these problems. Such strategies can assist healthcare professionals, educators, and families in effectively supporting these siblings in managing their challenges (Hartley et al., 2010). Implementing evidence-based interventions can contribute to fostering a supportive and inclusive environment within families, improving family dynamics (Orsmond et al., 2004).

LITERATURE REVIEW

According to Wang et al. (2018), the future of children can be significantly impacted by emotional-behavioral problems, particularly in the case of siblings with special needs. The presence of autism among children with special needs can be distressing for the family, as it not only affects the individuals with autism and cognitive disability but also has repercussions for other family members.

Neurotypical Versus Autistic Sibling Relationships

Sibling dynamics in neurotypical and autistic homes may be difficult, complicated, and stressful. The psychological health of one family member is likely to have an impact on the health of other people (sibling relationships) from the standpoint of family systems (Cridland et al., 2013; Giallo et al., 2014; Griffith et al., 2014; Kovshoff et al., 2017). On the basis of Bowen theory, a family is a psychological structure essential for an individual's identity (Bowen, 1993). He went on to say that families preserve autonomy in emotions in order to control feelings, ideas, and emotions. It implies that the general wellness of one family member had been related to the disturbances and wellness of others (Bowen, 1979).

But rendering to Bronfenbenner's (1979) ecological model, each family member's behaviors can be influenced by outside systems, which can then have an impact on other family members. For instance, stigma toward the person with the disability may affect how the parents cope, which may then affect how the sibling interacts with the person with the impairment.

Sibling relationships have a significant impact on siblings' growth, psychological health, and general health (Brody, 2004; Dunn, 2007; McHale et al., 2012; Noller, 2005). Additionally, having siblings makes every day social interactions easier and offers chances for bonding, education, and emotional guidance. These connections provide organic environments for the development of critical life skills (Ningrum, 2024). Conversely, those with autism have trouble establishing and sustaining social interactions. Additionally, they had trouble communicating with friends and classmates (Center for Disease and Control Prevention, 2022; Hyman et al., 2020). Relationships between neurotypical siblings and their sisters and brothers provide special and significant chances for comprehending feelings and discovering more about them (Kramer, 2014). Unlike parents, siblings spend the majority of their time together since their bond begins in their first year of life (Larson & Richards, 1994; McHale & Crouter, 1996). The connection with neurotypical siblings was characterized by a combination of openly expressed unpleasant and happy affective colors (Dunn, 1993).

Individual variations in neurotypical sibling interactions were also observed. While some siblings exhibit love, curiosity, collaboration, and support, others exhibit animosity, annoyance, and violent conduct. However, some youngsters have conflicting feelings toward their relationships with their siblings, displaying both animosity and positive interest (Dunn & Plomin, 1990; McGuire et al., 2000). Nonetheless, a number of studies showed that those with autistic siblings experienced stress, rage, hostility, decreased communication, and loneliness (Hartmann, 2012; Orsmond & Seltzer 2007; Petalas et al., 2012).

Emotional, Behavioral and Perceived Social Support among Neurotypical vs Autistic Sibling Dynamic

H1: Siblings of individuals with Autism Spectrum Disorder (ASD) will report higher levels of Emotional and Behavioral problems compared to siblings of individuals without ASD.

H2: There will be significant differences in the levels of perceived social support between siblings of individuals with ASD and those without ASD.

Relationships between parents and children with ASD, difficulties, and interventions for people with ASD have been the subject of much research. There is, however, insufficient study on the negative sibling relationship between neurotypical and autistic people, their behavioral and emotional difficulties, and their sense of social support. The emotional, psychological, behavioral, and social difficulties that neurotypical (NT) siblings of children with ASD often face can have a substantial impact on their wellbeing (Hastings, 2003). Moreover, having a parent or sibling with ASD increased the likelihood of anxiety and challenges (Glasberg, 2000).

A recent assessment by Trew (2025), neurotypical siblings frequently feel uneasy and anxious in their interactions, which causes them to emotionally and physically distance themselves from their autistic siblings. Children's socialization, emotional control, and problem-solving skills were linked to neurotypical sibling relationships

(Howe et al., 2015). However, having siblings with ASD has been linked to negative outcomes including lack of interpersonal abilities (Sibeoni et al., 2022), reduced participation, and increased avoiding behaviors (Laghi et al., 2018; Tomeny et al., 2017).

A controlled experiment of 153 children examines the emotional-behavioral abnormalities in healthy siblings of children with Down syndrome, autism spectrum disorder, and usual development. On the basis of the research, siblings of children with Down syndrome and ASD are more emotionally fragile, particularly in male individuals (Caliendo et al., 2020).

Spending up alongside someone who has ASD has both beneficial and negative consequences, revealed to a qualitative investigation. The findings indicate that typical developed siblings having ASD sibling had conflicting emotions about their brother, a premature sense of responsibility, anxiety about the future, problems with friendship, and a need to discuss their experiences. The majority of teenagers combined their good and bad emotions. Fewer, nevertheless, showed signs of intimidation, abandonment, or disbelief. In order to assist teenagers in managing their connection with a sister who has a handicap, support programs must be developed (Corsano et al., 2017). Those with siblings with ASD have engaged in fewer extracurricular activities, similar to a qualitative comparison study of 27 kids (Barak-Levy et al., 2010).

Toth et al. (2007) conducted a thorough comparison study to identify the differences between neurotypical and autistic children's mental abilities, socializing skills, and linguistic ability. The results indicate that, in comparison to children without ASD siblings, NT siblings of children with ASD showed worse levels of social interpersonal interaction, emotional competencies, and mental capacities.

Family trips are difficult for people with ASD as a result of how they behave and problems with interaction (Kaminsky & Dewey, 2002). Teens with ASD exhibit repeated activities and struggle with social comprehension and communication. An analogous study investigated if siblings of children with ASD were different from siblings of neurotypical children in terms of effectiveness, emotion, and coping. The findings indicated that compared to their neurotypical siblings, ASD siblings scored higher on adverse emotions and worse on emotional performance, social behavior functioning, and beneficial effects. Still, there were no obvious distinctions comparing the siblings with ASD and those who were neurotypically developing in terms of coping mechanisms or educational achievement (Habelrih et al., 2018). Chu et al.'s (2023) qualitative research examined the lived experiences and perspectives of teenagers who have a sibling with an ASD diagnosis. Using the theme analysis, respondents said they had trouble talking with their siblings. When dealing with their ASD siblings, these teenagers frequently experienced a range of emotions, and they frequently used emotional self-management as a coping mechanism.

Research suggests that having siblings with ASD may put neurotypical siblings at higher risk for anxiety, sadness, loneliness, aggressiveness, and attention issues

(Orsmond & Seltzer, 2007; Shivers et al., 2019). In accordance with Vidojevic et al. (2014), children who are close in age to their siblings with ASD may feel overwhelmed, which can lead to patterns of avoidance, despair, and a sense of shame. Similar to a qualitative analysis, caring for people with ASD has a profound and complex effect on guardians' mental health. Family relations are altered by these impacts, which show up as persistent tension, anxiety, and interpersonal problems (Sánchez Amate & Luque de la Rosa, 2024).

A high degree of stress, emotional strain, and a stronger feeling of accountability are common experiences for neurotypical siblings. Anxiety, aggression, behavioral, relational, and psychological disorders are more likely to affect siblings of an autistic kid (Moss et al., 2019; Sipowicz et al., 2022). In a comparable manner when social connections are reduced, siblings of people with ASD report experiencing anxiety, sadness, and externalizing behavioral issues (Macks & Reeve, 2007).

Relationship Between Social Support and Psychological Wellbeing

H3: There will be a negative relationship between perceived social support and emotional and behavioral problems.

As stated by a retrospective evaluation by Ben-Itzchak et al. (2019), older siblings have a favorable impact on their younger sibling with ASD's social abilities. Also, the results demonstrate that children with ASD who had older siblings had improved social functioning and social adjustment abilities. Social interaction impairments and stronger cognitive abilities in social adaptation skills have been linked to an existence of older or younger siblings in children with ASD. For people with autism, sibling connections are generally the most important and long-lasting, and they frequently serve as the basis for social behaviors (Mandleco & Webb, 2015). Many studies have examined the lifelong challenges faced by siblings of individuals with ASD. The findings revealed that these siblings encounter unique circumstances, including increased responsibilities and difficulties in emotional adjustment. They often assume caregiving roles and undergo increased levels of tension and worry due to the demands associated with their sibling's condition. Moreover, they may struggle with feelings of frustration, isolation, and a sense of responsibility for their sibling's well-being (Orsmond & Seltzer, 2007).

Siblings of people with neurodevelopmental disorders frequently have behavioral and emotional difficulties as a result of their neurodivergent condition. These negative effects can be mitigated by perceived social support. Suzumura & Ando (2025) investigate the moderating influence of perceived social support in the association between persistent unfavorable sentiments toward children with neurodevelopmental disorder and discomfort brought on by demanding behaviors. Feeling uncomfortable and ongoing unpleasant emotions were shown to be significantly correlated. Despite the protective effect was smaller when annoyance levels were high, perceived social support attenuated this connection, linking higher levels of support with reduction of adverse sentiments (Suzumura & Ando, 2025). In regards to research, having NT siblings was linked to improved social communication, nonverbal interaction, and theory of mind skills in people with

autism spectrum disorder (Rosen et al., 2022). From Rosen et al. (2022), individuals with ASD who have siblings may exhibit more flexible behavior from infancy to adulthood than those who do not have neurotypical siblings.

The Buffer Role of Social Support in Siblings Adjustment

H4: Perceived social support will act as a buffering variable for emotional and behavioral problems in both groups.

Agius (2025) focuses on the real-life experiences of neurotypical siblings who have an ASD brother or sister. The author assesses the difficulties of interacting with and taking care of a sister with autism because they have an ASD brother. This has shaped their personal growth and comprehension of family dynamics. Worries regarding a bright future become more prevalent while children and their autism peers get older.

In contrast to the possible drawbacks, some siblings also have beneficial outcomes. The psychological and social functioning of NT siblings with ASD is investigated in a comprehensive review. Based on research, those as siblings with ASD may have high levels of resilience, empathy, feelings of depression, anxiety, and interpersonal difficulties (Cervellione et al., 2025). Increased empathy, autonomy, intellectual maturity, feelings of compassion, collaboration, comprehension, assistance, self-regulation, warmth, higher self-esteem, and more pleasant relationships with others are just a few of the beneficial results highlighted by Aksoy & Yildirim (2008). Neurotypical siblings also display beneficial changes, such as improved adaptability, sensitivity, and caring abilities (Kaminsky & Dewey, 2001).

These studies of the literature were in line with Milton and colleagues' Double Empathy Problem theory, which contends that interpersonal problems between autistic and non-autistic individuals are reciprocal and equal. As stated by Milton et al. (2020), neurotypical siblings experienced social difficulties with autistic social partners when an autistic person struggled to communicate and sustain social connection. Due to heightened senses, executive functioning issues, and communication style differences, autistic people might discover it difficult to engage in reciprocal interactions, whereas NT siblings might consider it difficult to adjust to their autistic sibling's distinctive behaviors (Siemann et al., 2020).

Given that siblings devote a suitable amount of time together, sibling interactions may have a particularly significant impact on teenage ability to make choices. Teenagers' thoughts, emotions, and behavior may be impacted. Thus, sibling relationships influence social skills, identity development, and emotional management within social support perceived area (Rogers & Morgan 2025). According to Vidojevic et al. (2014), neurotypical siblings do not participate in social environments and aggressively conceal their disability even those around them, which leads to some of them being sufferers of prejudice themselves. Based on the family theory of the transactional model of development, a child's impairment may put more pressure on their parents, which may cause them to pay a lower focus to their neurotypical sibling's basic requirements (Sameroff, 2009).

On the other hand, having neurotypical siblings has been linked to improved emotional intelligence and social skills. Youngsters that have neurotypical siblings are frequently better at comprehending feelings, settling disputes, and acting cooperatively (Ningrum, 2024). Conversely, a person with autism may have social impairment (APA, 2022). Numerous studies have demonstrated that people with autism may experience social challenges (Crompton et al., 2020; Kimhi & Bauminger-Zviely, 2012; Morrison et al., 2019). As a result, an autistic person may have the best relationships with their siblings.

Between people with siblings with ASD and those without, perceived social support has a major moderating impact. In accordance with existing research, these siblings have particular social difficulties (Hinek & Milakovic, 2019; Moss et al., 2019; Sipowicz et al., 2022). However, Kaminsky & Dewey's (2002) study revealed that siblings of children with autism had a broad range of outcomes in the assessment of social competence and peer relationships. A research by Angell et al. (2012), siblings with ASD reported being made fun of, humiliated, and frustrated by their siblings' incorrect social behavior. Furthermore, a psychosocial study by Bågenholm & Gillberg (1991) found that those with autistic siblings were more worried about the future. They also experienced loneliness more frequently, and several of them struggled with their peers.

Bronfenbrenner and Hornby (1979) in their research about the relationships between various aspects of the family environment and family functioning, tried to explore siblings' level of self-concept and satisfaction with the sibling relationship. They concluded that it is expected that families who receive more support from external levels of the environment will be able to function more effectively in their immediate environment. It is also found through much research that families who receive higher levels of support have more positive perceptions of the family environment, and families who have more support and more positive views of the environment have few concerns on the resources and lower risk of stress (Gousmett & Sharyn, 2006).

Siblings can be a source of companionship, help, and emotional support. In their interactions with each other, siblings get many skills both social and cognitive, that are central to healthy development of the social aspect of their personality. Travis and Sigman (1998) suggested that siblings of children with autism provide them opportunities to socially interact with their peers under maximally supportive conditions, which may be essential for these children.

McHale et al. (1986) indicated that siblings with a good understanding of their brother or sister's disability, had positive sibling relationships when they perceived that parents and peers had positive reactions toward their sibling with a disability. It is plausible that societal support tailored to these siblings may also be crucial for their adaptive and healthy adjustment (Kaminsky & Dewey, 2002). Providing appropriate social support and required resources to these individuals is very important and can possibly have long standing benefits for both. (Meyer & Vadasy, 1997)

The viewpoints of parents parenting children with ASD have been the subject of various research. Research on the viewpoints and encounters of neurotypical siblings is scarce. By contrasting autistic and non-autistic siblings, this study aims to close that gap and learn more about how having autistic siblings has affected their lives in comparison to neurotypical siblings. The goal of the study is to give a thorough analysis of the behavioral, social, and emotional effects of sibling dynamics. In opposition to neurotypical siblings, siblings of people with autism confront distinct possibilities and obstacles, which this page helps readers better understand.

There are still a number of gaps in the expanding collection of research on NT siblings. First, the majority of research focuses on the causes and prevalence of autism spectrum disorder, as well as the relationship between parents with and without ASD. However, there hasn't been much focus on comparing the emotional and behavioral issues between siblings of people with ASD and siblings of people without ASD experience. The second step is to evaluate the perceived social support levels of siblings of people with ASD and contrast them with those of siblings of people without ASD. Third, to evaluate how siblings of people with and without ASD relate to each other in terms of emotional and behavioral issues and perceived social support. Finally, the moderating function of perceived social support as a buffering variable for behavioral and emotional issues in both groups was investigated.

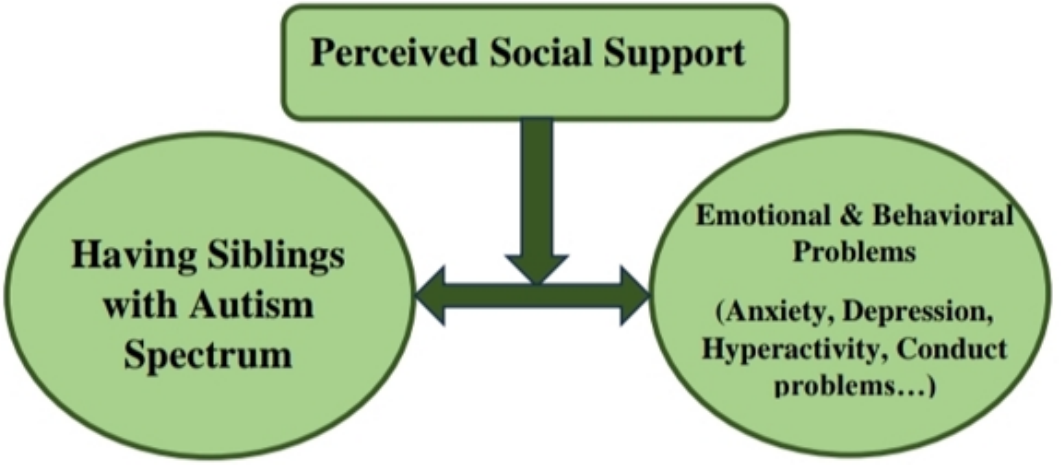

Figure 1: Proposed theoretical model of study

METHODOLOGY

Sample & Sampling Method

In all, 300 participants between the ages of 14 and 17 were divided into two groups for this study: Group A (N=150) was made up of individuals who had siblings with autism spectrum disorder, with a mean age of 15.55. Group B (N=150) comprised individuals with neurotypical siblings, with a mean age of 15.08. In Karachi, Pakistan, participants were chosen from a variety of clinics, organizations, and educational institutions. Data for the study was gathered using the purposeful sampling approach.

Participants in Group A were selected based on the following criteria: they had to have one or more siblings with autism spectrum disorder from a reliable source; the sibling had to have been diagnosed with ASD one or more years prior to the study; they had to spend eight or more hours a day with their autistic siblings; they had to be at least 14 years old, up to the age of 17; they had to be living in Karachi, Pakistan; they had to have an educational background; and they were fluent in both English and Urdu.

In a comparable manner, the selection criteria for Group B participants included having one or more siblings, never having been diagnosed with ASD, spending eight or more hours a day with their siblings, being at least 14 years old and up until the age of 17, not receiving any psychological support treatment, coming from all over Karachi, Pakistan, having an educational background, and speaking Urdu and English fluently.

Individuals between 14–17 years of age are most suited in order to analyse all four hypotheses due to specific developmental dynamics. It was found that adolescence (mid to late) brings a biological incline in stress responsiveness and emotional reactivity, which makes this age appropriate to assess emotional and behavioral challenges in the participants. (Dahl & Gunnar, 2009). It is also known that adolescents at this stage undergo individuation, which means they shift their resilience from parents to peer networks (Hostinar et al., 2015). This social shift allows for a precise evaluation of variations in perceived social support. Having entered the formal operational stage of cognitive development according to Piaget, individuals aged 14–17 possess the advanced abstract reasoning required to accurately evaluate and self-report subjective emotional states (Magis-Weinberg et al., 2020). Finally, because this age group concurrently faces intense academic, identity, and social pressures, they operate within a crucible. Which makes it suitable to test whether social support successfully functions as a protective buffer against psychological difficulties (Cohen & Wills, 1985).

Furthermore, the study was only open to individuals who gave their informed permission . They were informed of their rights, the researchers objectives and methods, and their freedom to leave the study at any moment and for any reason.

Variables & Measures

The study demonstrated how sibling dynamics in neurotypical and autistic homes differ in terms of emotional and behavioral difficulties and the impact of social support. In 1998, Goodman and associates used the Strengths and Difficulties Questionnaire (SDQ; Goodman et al, 1998) to measure these factors. The scale showed strong test-retest reliability ($r = 0.73$-0.82) and internal consistency ($\alpha = .61$-$.82$).

The Child and Adolescent Social Support Scale (CASS; Malecki et al., 2000) was used to measure the impact of social support. Excellent test-retest reliability ($r = 0.58$-0.74 for subscales) and internal consistency (varying from 0.92 to 0.96) are demonstrated by the CASS scale.

Procedure

The participants and their parents were provided with the informed consent form (in case of underaged participants), in which they were assured of having the authority to withdraw from the research anytime they felt uncomfortable and didn't want to participate, followed by the demographic form and then the attached questionnaires. The Child and Adolescent Social Support Scale (CASS; Malecki et al., 2000) and the Strengths and Difficulties Questionnaire by Goodman and colleagues in 1998 (SDQ; Goodman et al., 1998) were given to Group A (siblings diagnosed with ASD) and Group B (siblings diagnosed without ASD) after obtaining permission from the corresponding authors in order to assess the effects of social support as well as emotional and behavioral difficulties. Participants' age, gender, birth order, whether or not they are receiving psychiatric help, level of education, and family structure are among the initial demographic items on the survey for both groups. Sibling ASD severity, sibling gender, sibling birth order, sibling education, whether or not the sibling is receiving psychological help, and the year of diagnosis after measurements were administered. After that, SPSS software 23 was used to screen and analyze the gathered data.

Research Design

The study compares the emotional, behavioral, and perceived social support of siblings from neurotypical and autistic homes using a quantitative, correlational, and comparative methodology.

Data Analysis

The study used a quantitative technique. The data was analyzed using regression, correlation, and ANOVA.

Research Objectives

- To compare the levels of emotional and behavioral problems between siblings of individuals diagnosed with Autism Spectrum Disorder (ASD) and siblings of individuals without ASD.
- To assess the levels of perceived social support in siblings of individuals with ASD and compare them to those in siblings of individuals without ASD.
- To assess the relationship between perceived social support and emotional and behavioral problems in siblings of individuals with and without ASD.
- To explore the moderating role of perceived social support as a buffering variable for emotional and behavioral problems in both groups.

Research Questions

- Do siblings of individuals with Autism Spectrum Disorder (ASD) report higher levels of emotional and behavioral problems compared to siblings of individuals without ASD?
- Is there any difference between levels of perceived social support in both groups?
- Is there a negative relationship between perceived social support and emotional and behavioral problems in both groups?
- Does perceived social support buffer the impact of emotional and behavioral problems in siblings of individuals with and without ASD?

RESULTS

Table 1: Demographics of Participants of Group A (Siblings with ASD Diagnosis)

	Group A (Autistic Siblings)				Group B (Neurotypical Siblings)			
Variables	f	%	M	SD	f	%	M	SD
Age			15.55	0.973			15.08	0.799
14	27	18.0			36	24.0		
15	39	26.0			72	48.0		
16	59	39.3			36	24.0		
17	25	16.7			06	4.0		
Gender			1.48	0.895			1.38	0.487
Male	78	52.0			93	62.0		
Female	72	48.0			57	38.0		
Birth Order			1.76	0.501			1.89	0.901
First Born	75	50.0			61	40.0		
Second Born	43	28.7			54	36.0		
Third Born	25	16.7			26	17.3		
Others	7	4.7			9	6.0		
Family System			1.21	0.411			1.19	0.396
Nuclear	118	78.7			121	80.7		

Joint	32	21.3			29	19.3		
Education of Participant			2.30	0.903			2.24	0.817
Secondary	135	90.0			138	92.0		
Higher Secondary	15	10.0			12	8.0		
Undergoing Psychological Support (Participant)			2.00	0.00			2.00	0.00
No	150	100.0			150	100.0		
History of ASD in Family			1.00	0.00			1.00	0.00
Yes	150	100.0			150	100.0		
Severity of ASD			1.55	0.728			2.00	0.00
Mild	88	58.7			150	100.0		
Moderate	41	27.3						
Severe	21	14.0						
Gender of Sibling			1.41	0.494				
Male	88	58.7						
Female	62	41.3						
Birth Order of Siblings			2.81	1.001				
First	19	12.7						
Second	35	23.3						
Third	52	34.7						
Other	44	29.3						
Education of Sibling			3.06	1.367				
Primary	43	28.7						
Secondary	6	4.0						
None	101	67.3						
Undergoing Psychological Support (Siblings)			1.01	0.115				
Yes	148	98.7						
No	2	1.3						

The 300 participants' comparative demographics are shown in the table. Participants were split into two groups: 150 individuals in Group A were autistic, and 150 individuals in Group B were neurotypical. According to the findings, the majority of participants in both groups were teenagers (15–16 years old). Gender-wise, Group A is 52% male

and 48% female, whereas Group B is 62% male and 38% female. Group A (50%) has a comparatively greater percentage of firstborns from birth order demographics than Group B (40%). Compared to the joint family system, the majority of both groups (Groups A = 78.8%, Group B = 80.7%) belong to the nuclear family system. Most of the individuals in both groups were enrolled in high school. There is a 100% history of ASD in both groups.

Most of the individuals in both groups were enrolled in high school. There is a 100% family history of ASD in both groups. Finally, whereas Group B (neurotypical siblings) did not seek psychological treatment, Group A (siblings with autistic siblings) did.

Table 2: Descriptive Statistics of Variables and Alpha Coefficient, Normality of Research Variables (N=300)

Scale	Items	A	M	SD	SK	K	Range	
							Min	Max
SDQ	68	0.831	85.47	15.377	-0.479	0.260	0.113	3.473
CASSS	240	0.935	635.66	60.432	-1.070	-0.969	1.193	5.520

The Strength Difficulty Questionnaire (SDQ) and Child and Adolescent Social Support Scale (CASSS) descriptive statistics, internal consistency, and normalcy distribution can be seen in the table. With a Cronbach alpha score of 0.831, the SDQ's 68 items demonstrate strong internal consistency. Regarding the normalcy distribution, the SDQ's skewness (SK = -0.479) is somewhat negative, whilst its kurtosis (K = 0.260) was standard. It implies that the 300 participants' SDQ was distributed properly. The CASSS, on the contrary, has 240 items and a Cronbach alpha score of 0.935, indicating strong internal consistency. Kurtosis (K = -0.969) and skewness (SK = -1.070) both fell inside the normal distribution. Nevertheless, the CASS mean (M = 635.66) was higher than the SDQ mean (M = 85.47). The reason for this was that there were more items in CASS (240) than SDQ (68).

Table 3: Group Statistics for Emotional & Behavioral Problem in Both Groups

Variables	Group A (N = 150)		Group B (N= 150)				
SDQ	M	SD	M	SD	t	df	p
	49.08	6.16	30.62	11.91	16.84	223.39	.000

As stated by the first hypothesis, those with autistic siblings (Group A) reported more emotional and behavioral issues than people with neurotypical siblings (Group B). Table 3's statistical analysis provided compelling evidence for this theory. The analysis depicts the independent samples of the SDQ t-test for Group A and Group B in terms of behavioral and emotional characteristics among 150 participants (each group). Group A's mean score (M = 49.08) is higher than Group B's (M = 30.62). Further, Group A's variance (SD = 6.16) was lower than Group B's (SD = 11.91). This indicates that individuals in Group A (siblings with autism) have more emotional and behavioral issues than those in Group B (siblings with

neurotypical traits). Greater statistical disparities between the two groups are further demonstrated by the p value (p =.000).

Table 4: Group Statistics for Perceived Social Support in Both Groups

Variables	Group A (N = 150)		Group B (N= 150)				
CASSS	M	SD	M	SD	T	df	p
	279.31	33.73	356.34	50.74	-15.48	289	.000

The second hypothesis of this study suggested that Group A and Group B's perceived social support differed statistically which is proven, as shown in Table 4. The independent sample of t-test comparing the CASSS analysis to gauge felt social support among 150 participants (each group) is displayed in the table. The research suggests that Group B's mean score (M = 356) was greater than Group B's mean (M = 279.31). Group B's standard deviation (SD = 50.74) was higher than Group A's (SD = 33.73). The results reveal that, compared to Group A, Group B felt higher social support. Further, the highly statistically significant variations in felt social support between the two groups are demonstrated by the p value (p =.000).

Table 5: Pearson Correlation among Emotional & Behavioral Problems and Perceived Social Support in Group A and Group B

	SDQ	CASSS
Group A (N = 150)		
SDQ		-0.245**
CASSS	-0.245**	
Group B (N = 150)		
SDQ		-0.474**
CASSS	-0.474**	

The third hypothesis is validated by Table 5, which indicates a negative correlation between emotional/behavioral issues and perceived social support. Both groups show a negative link between emotional and behavioral issues and perceived social support, according to the Pearson correlation of emotional and behavioral difficulties (SDQ) and perceived social support (CASSS). According to the investigation, emotional and behavioral issues decline when perceived social support rises and vice versa. Group A (r = -0.245), on the other hand, represents the moderately unfavorable substantial variations to emotional/behavioral aspects and social support. Group B, on the other hand, showed significant negative differences in social support and emotional/behavioral characteristics (r = -0.474).

Table 6: Model Summary Table for Regression Analysis

Model	R	ΔR^2	Change Statistics				
			R Square Change	F Change	df1	df2	Sig. F Change
1	.784[a]	.615	.615	157.874	3	296	.000

The 300 participants' linear regression analysis is highlighted in the table. Because p <.001, the analysis demonstrates the model's statistical significance. The dependent and independent variables have a high positive correlation, demonstrated by the R =.784. In contrast, 61% of the variance in the dependent variable may be explained by the ΔR2 =.615. Additionally, the df1 clarifies that the study included three predictors.

Table 7: Analysis of Variance (ANOVAa) for Regression Analysis

Model		Sum of Squares	df	M^2	F	P
1	Regression	32218.123	3	10739.374	157.874	.000[b]
	Residual	20135.424	296	68.025		
	Total	52353.547	299			

The regression model's strong significance (p <.001) is further supported by the ANOVA table. This indicates that among the 300 research participants, independent factors had a significant and potent influence on the dependent variable.

Table 8: Coefficientsa Table of Regression Analysis Showing Perceived Social Support as Moderator Between Grouping Variable and Emotional & Behavioral Problems

Variables	p	B	95% CI	
			LL	UL
(Constant)	.000	20.125	16.098	24.153
CASSS	.000	-.072	-.095	-.049
GROUPING_VARIABLE	.000	-11.820	-14.341	-9.299
SDQ*CASSS	.000	0.005	0.003	0.006

The table summarizes the regression analysis coefficients that show how both groups' emotional and behavioral problems are influenced by perceived social support. Perceived social support and emotional and behavioral issues are significantly correlated negatively (B = -.072, p <.001) corresponding to the CASSS (social support). It implies that those with more social support have fewer mental and behavioral issues. Additionally, the grouping variables were a significant influence (p <.001, B = -11.820). This explains how a person's membership in Group A or Group B significantly affects their emotional and behavioral issues (SDQ scores). Nonetheless, there is a significant and significant connection (B = 0.005, p <.001) with the moderating effect (SDQ*CASSS). It suggests that the grouping variable's impact on emotional and behavioral problems is influenced by an individual's feeling of social support.

Hence statistical analysis confirms the fourth hypothesis, showing that perceived social support acts as a buffer for emotional and behavioral problems in both groups. This finding is clearly backed up by the regression results presented in Tables 6, 7, and 8.

DISCUSSION

This study compares the sibling dynamics of neurotypical and autistic people, emphasizing behavioral and emotional difficulties as well as the moderating effect of perceived social support. The study advances our understanding of how neurotypical and autistic siblings dynamically affect and deal with these difficulties by illuminating the demographic, emotional, and behavioral issues as well as perceived social support elements that underlie these discrepancies. In this part, the study's findings were examined and contrasted with previous research.

In keeping with the first hypothesis, those with autistic siblings (Group A) reported more emotional and behavioral issues than people with neurotypical siblings (Group B). Table 3's statistical analysis provided compelling evidence for this theory. With $p < .001$, the study shows a significant distinction between Group A and Group B. Group A's mean score ($M = 40.8$, $SD = 6.16$) is greater than Group B's ($M = 30.62$, $SD = 11.91$). These results were in line with previous research showing that people with siblings diagnosed with ASD are more likely than people with normal siblings to experience emotional and behavioral stress. This research was in line with a recent qualitative study that found that, in contrast to their normal siblings, individuals with autistic siblings struggle with emotional and behavioral issues such anxiety and despair (Sengul et al., 2026). According to the most recent thematic study, autism affected the entire family, not just siblings. Families with children with autism typically provide greater care. So, they missed another typical youngster. The youngster experienced negative feelings including shame and embarrassment, as well as a fear of the future (Starling & Mason, 2026). Furthermore, emotional and behavioral issues in neurotypical and autistic siblings were significantly impacted by sibling relations. Compared to those with neurotypical siblings, those with autistic siblings exhibited emotional and behavioral challenges (emotional symptoms, conduct issues, hyperactivity/inattention, and peer connection issues). In comparison to those without autism spectrum condition, these poor outcomes were substantially linked to bad sibling interactions (aggression, avoidance, rivalry, and teaching behavior) toward the brother or sister with the disease (Longobardi et al., 2019). By combining these findings, it was established that, in contrast to those with siblings who are generally developed, autistic siblings have significant emotional and behavioral challenges.

As stated by the second hypothesis of this study, Group A and Group B's perceived social support differed statistically ($p < .001$), as shown in Table 4. Table 4 shows that the neurotypical siblings in Group B had a higher mean value ($M = 356.34$, $SD = 50.74$) for perceived social support. On the other hand, the study revealed that Group A (autistic siblings) had a lower mean value ($M = 279.31$, $SD = 33.73$) for perceived social support. The investigation verified that among those with autistic siblings, perceived social support functions as a moderating factor. Individuals with

normal development often have a large number of social groups, events, and support systems. However, since they felt ashamed and guilty, those with autistic siblings had trouble interacting with others and attending social events. According to the research, neurotypical siblings who have good social networks—friends, extended family, and school support—show more resilience and lower levels of anxiety and sadness. On the other hand, siblings who feel less social support are more likely to experience emotional maladjustment and loneliness (Koukouriki et al., 2021). In a similar vein, an empirical comparison suggests that although siblings with ASD learn superior social skills and tolerance via their social experiences, others report feelings of loneliness and difficulties in peer interactions as a result of their ASD sibling's conduct (Bågenholm & Gillberg, 1991). The premise of the current study supports the idea that perceived social support acts as a substantial buffer for both those with and without siblings with autism spectrum conditions.

The third hypothesis is validated by Table 5, which indicates a negative correlation between emotional/behavioral issues and perceived social support. Table 5 showed an unfavorable Pearson connection between emotional and behavioral problems and perceived social support. But in Group B, whose neurotypical siblings have a larger correlation value ($r = -0.474$, $p < 0.01$), the correlational impact was more pronounced. However, Group A of siblings with ASD has a stronger association than Group B ($r = -0.245$, $p < 0.01$). It implies that both Group A and Group B participants stated that feeling more social support lessens the sensations of loneliness, anxiety, and depression. These results were pertinent to the findings of a Dutch longitudinal research, which showed that support between siblings is a crucial sign of a neurotypical sibling relationship. While sibling behavior issues may encourage dissatisfaction and violence (internalizing behavior), those who receive support from their siblings exhibit a decrease in anger and conflict (externalizing behaviors). They also draw the conclusion that adolescents' relationships with both older and younger siblings are impacted by modeling processes (Branje et al., 2004). Supported by reliable study that demonstrates how social support acts as a crucial moderator to lessen behavioral and mental suffering. The conclusion supports the inverse link that emotional and behavioral problems decline as perceived social support rises (Coyle et al., 2017). This result complements the present study, which found that Group B of neurotypical siblings has a greater inverse connection, meaning that the more the sibling perceives social support, the fewer externalizing issues they have. Meadan and colleagues' mixed results review, on the other hand, shows that those with siblings with ASD have erratic emotional and behavioral patterns (Meadan et al., 2010). Furthermore, Walton & Ingersoll (2015) emphasize the inverse link that supports the current study, with siblings of people with ASD displaying behavioral and affective patterns while social support was changing. These corroborate the study's premise that Group A exhibits emotional and behavioral maladjustment when they have fewer siblings and a smaller social group. Given Zucker et al. (2022), when a neurotypical sibling provides them with assistance, they demonstrate a noteworthy good quality of connection and positive contact with others. Therefore, the current study's hypothesis provides credible evidence from earlier research showing the moderating function of perceived social support has a significant and detrimental relationship with emotional and behavioral difficulties.

The fourth hypothesis—that perceived social support would function as a buffering variable for emotional and behavioral issues in both groups—is validated by the statistical analysis. This idea is highly supported by the regression analysis tables shown in tables 6, 7, and 8. The overall substantial link between the dependent and independent variables is confirmed by the change in R square values of.615 and $p < .001$ in tables 6 and 7. Table 7, however, shows that the interaction term of (SDQ*CASSS) further strengthens the buffering impact of perceived social support in relation to emotional-behavioral predictors of both groups, with the 95% CI not showing zero (0.003-0.006) and $B = 0.005$, $p < 0.001$.

These results were in line with Tomeny and colleagues' findings, which show that siblings who report receiving social assistance on a regular basis may have less emotional and behavioral problems than siblings who receive insufficient social support (Tomeny et al., 2018). Because neurotypical siblings have a robust social network, they are more resilient and experience less psychological anguish. Conversely, siblings who felt less social support were more likely to experience emotional maladjustment and loneliness (Koukouriki, 2021). These beneficial effects, such as boosting empathy and resilience while lowering anxiety and despair, are well supported by Cervellione et al. (2015). Similarly, siblings with neurodevelopmental disorders may have unfavorable emotional and behavioral outcomes due to the moderating influence of social support. When they get social assistance, the ratio of negative emotional and behavioral problems might decrease (Suzumura & Ando, 2025). According to Koukouriki's (2022) findings, people with ASD siblings exhibit general wellness and a better health-related quality of life when they feel social support. Therefore, the current study's hypothesis provides solid evidence from earlier research that the moderating effect of perceived social support has a significant relationship with emotional/behavioral difficulties among participants in both groups.

CONCLUSION

The purpose of the study was to compare the emotional and behavioral issues that siblings of people with autism spectrum disorder (ASD) encountered to those of siblings of people without ASD. It also looked at how perceived social support helped to lessen these difficulties. The results mentioned above shed important light on these siblings' psychological health. It highlights how crucial social support is in lowering emotional and behavioral issues. The distinct psychological difficulties that both groups encountered are highlighted by contrasting the emotional and behavioral issues of people with ASD siblings with those of neurotypical siblings.
In addition, the study's second topic compared Group A with Group B in terms of perceived social support. This supports the idea that Group A is more likely than Group B to experience social isolation and a lack of outside support. In both groups, there is a substantial negative correlation between perceived social support and emotional and behavioral support. However, this link was more pronounced in Group B, suggesting that Group A's psychological well-being may be influenced by other factors. Finally, the study discovered that in both groups, perceived social support acts as a protective factor against emotional and behavioral issues. Although social support is helpful, this buffering effect was smaller for Group A, suggesting

that this group may require further treatments and focused support systems.
In order to improve the wellbeing of sibling relationships with their ASD brother or sister, these findings highlight the need for improved family and community support networks. Future studies should look at other variables that affect this population's emotional and behavioral issues. Interventions meant to boost perceived social support should also be evaluated in future studies. By filling up these gaps, we may help gain a better understanding of the challenges these siblings confront and develop practical solutions to improve their general quality of life.

LIMITATIONS & RECOMMENDATIONS

The self-reported metrics used in this study may incorporate social desirability or personal biases. It implies that individuals may have overreported or underreported behavioral and emotional difficulties. Additionally, because of restricted population access, the results could not apply to all ethnic and socioeconomic backgrounds. Table 1 illustrates the broad variations in family arrangements, social norms, and accessible support systems. These factors may have an effect on how a sibling cope with an ASD sibling. This study's cross-sectional design, which only records sibling experiences at a single point in time, is another drawback. This method ignores shifts in coping strategies, emotional and behavioral reactions, and the evolution of social support over time. Furthermore, although they are not specifically evaluated in the study, other variables that may have an impact on emotional and behavioral issues include parental stress levels, sibling personality traits, the home and school environments, or other support networks.

The author suggests using a mixed method approach can offer a thorough understanding of the emotional and behavioral experiences that siblings with ASD and neurotypical siblings go through. The results' generalizability will also be improved by some demographic characteristics, such as varying socioeconomic and cultural backgrounds. For a deeper comprehension of social support and coping mechanisms among siblings throughout time, longitudinal approach is also advised. Sibling support groups, counseling programs, and school-based initiatives are examples of long-term, effective interventions that can enhance the general well-being and sibling relationships of siblings with ASD.

STATEMENTS AND DECLARATION

Conflict of Interest (COI):

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethical Approval & Consent:

The research was approved by an institutional ethics committee and informed consent was obtained from the participants. In case of underage participants, consent was obtained from their parents and/or legal guardian.

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The data supporting the study's will be available upon request.

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