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ROLE OF DISRUPTIVE BEHAVIORS IN SIBLING RELATIONSHIP, LIFE SATISFACTION AND PSYCHOLOGICAL WELLBEING OF SIBLINGS OF CHILDREN WITH AUTISM

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Abstract
Autism is a neurological and developmental disorder that affects people's interactions, communication, learning, and behavior (Trevarthen & Delafield-Butt, 2013). This study looks at the relationship between disruptive behavior in sibling relationships, life satisfaction, and psychological well-being in siblings of autistic children. The study's sample size was one hundred (*N=100*) participants. The information was gathered from various centers and hospitals in Lahore. The Aberrant Behavior Checklist, Sibling Inventory of Behavior Scale, The Satisfaction with Life Scale, and Ryff's Psychological Wellbeing were used to assess variables such as Disruptive Behavior, Sibling Relationship, Life Satisfaction, and Psychological Wellbeing. Data was analyzed using descriptive statistics, Pearson Product Moment Correlation, Regression, and Moderation in SPSS-22. Results indicate that disruptive behavior has a significant strong negative correlation with quality of sibling relationship (r = -.29, p<.01), psychological wellbeing (r = -.27, p<.01) and life satisfaction (r = -.34, p<.001). Findings show that disruptive behavior moderated the relationship between quality of sibling relationship and psychological wellbeing.

Keywords: *Disruptive behavior, sibling relationship, psychological wellbeing and life satisfaction.*

Introduction

Autism is a chronic disorder characterized by a variety of behaviors that can be stressful for families and have a negative impact on well-being (Costa et al., 2017). Autistic people have varying degrees of difficulty with social contact and communication. They may also exhibit disruptive behavior and struggle with emotional issues. Tillett et al. (2023) discovered that siblings of autistic children are more likely to struggle with social interaction skills or disengagement. Moreover, Rodrigue et al. (2019) compared siblings of autistic children to siblings of typically growing children and discovered that the former group had elevated levels of both internalizing and acting out issues, as reported by

their parents. As a result, the current body of research suggests that few siblings of autistic children face more mental adaptation challenges than their peers (Tsai, 2018). Families dealing with an autistic child face numerous challenges, including aggression, self-injury, impulsivity, hyperactivity, ritualistic actions, significant communication difficulties, and the need to navigate others' reactions (Kaminsky & Dewey, 2002). According to Rojahn et al. (2007), siblings with autism frequently engage in aggressive, self-destructive, impulsive, hyperactive, temper tantrum, and obsessional ritualistic behaviors, which can disrupt family relationships. In addition, siblings might experience adjustments to the roles, responsibilities, and activities within the family, feelings of shame and guilt, less parental attention, and more parental stress—all of which could negatively impact their well-being and ability to function (Rosen et al., 2022). Research examining families with children on the autism spectrum often examine how having an autistic child may increase the likelihood of mental health issues for parents and siblings (Thomas et al., 2015).

A "sibling relationship" is defined as two or more brothers or sisters who are raised and adopted under the same family and are related by blood or by law (Balsam, 2005). In their own lives, siblings hold a special place, offering a friendship similar to that of parents as well as the support and influence that friendships are known for. Like other members of the immediate family, siblings who grow up in the same home are inevitably exposed to each other on a regular basis (Furman & Lanthier, 2005). Siblings of autistic people frequently have special and intricate relationships that are impacted by having autistic family members. Depending on the particulars, the amount of support given, and the unique personalities of the siblings involved, these relationships can vary greatly (Jordan et al, 2012). Behavior that consistently threatens, intimidates, or defies social norms is referred to as disruptive behavior (Kimonis et al., 2023). Temper tantrums, physical aggression toward others, having lengthy arguments, stealing, and exhibiting defiance or resistance to authority are a few examples of these behaviors that are easily recognized (Browne et al., 2002). When discussing children, disruptive behavior is used to describe situations in which a child finds it difficult to control their actions. These situations typically occur in social settings and have a variety of underlying causes (Browne et al., 2002).

The degree to which an individual maintains a positive assessment and evaluates the overall quality and contentment of their entire life is referred to as life satisfaction. It basically gauges how happy and fulfilled a person is with the life they are living (Frisch, 2005). Two important components make up psychological well-being. The initial aspect pertains to the degree of positive feelings and joy that people feel. From an individual standpoint, this specific aspect of mental health is frequently referred to as personal well-being (Slade, 2010). Many siblings of people with autism form close relationships with their autistic siblings despite the difficulties. These relationships can be long-lasting and deeply meaningful, characterized by a special kind of understanding and connection (Packman et al., 2006). Previous studies have addressed caregiver burden and mother stress, but there is a deficiency in the literature regarding the discussion of sibling relationships. The paucity of cross-cultural studies, however, may represent a research gap on this subject. The research on disruptive behavior, the quality of sibling relationships, life satisfaction, and the psychological wellbeing of siblings with autism in a collectivistic culture will be a worthy attempt to add to the body of literature. While people in Pakistan adhere to collectivistic norms, individuals in western countries live in individualistic cultures. Furthermore, conducting research on siblings of children with autism in Pakistan may help to raise awareness and understanding of the disorder in the local community, which may lead to improved access to care for individuals with autism in the country.

The relationship between disruptive behavior, life satisfaction, and psychological well-being of siblings of autistic children is a complex and multifaceted issue. Disruptive behavior in the child with autism, such as aggression or tantrums, can have a negative impact on the life satisfaction and well-being of siblings. Because most families in Pakistan have a joint family system, there is a lot of pressure on autistic children's siblings because when their parents go out, they leave their children at home with his or her siblings. Siblings of autistic children bear a great deal of responsibility and stress. Economic pressures can have an impact on a sibling's ability to achieve financial independence in

adolescence. They may find it difficult to save for the future due to immediate family financial obligations or the need to provide ongoing support to their autistic sibling.

Objectives

- To investigate the relationship between disruptive behaviors, quality of sibling relationship, life satisfaction and psychological wellbeing of siblings of children with autism.
- To explore whether the quality of sibling relationship would be a predictor of psychological wellbeing.
- To examine whether the disruptive behavior would moderate the relationship between quality of sibling relationship and psychological wellbeing.

Hypothesis

H1: There would be a negative relationship between disruptive behavior, quality of sibling relationship, life satisfaction and psychological wellbeing of sibling of autism.
H2: There would be a positive relationship between quality of sibling relationship, life satisfaction and psychological wellbeing of autism.
H3: Quality of sibling relationship would be a predictor of psychological wellbeing
H4: Disruptive behavior would moderate the relationship between quality of sibling relationship and psychological wellbeing.
H5: There would be gender difference in quality of sibling relationship experienced by sibling of children with autism
H6: Siblings of children with autism in joint family system would be experience better sibling relationship and psychological wellbeing.

Research Methods

The current study sought to determine the relationship between autistic siblings' sibling relationships, disruptive behavior, psychological well-being, and life satisfaction. The research was divided into two stages. In phase 1, the Adolescent Wellbeing Scale and the Sibling Inventory of Behavior were translated into Urdu. The study of psychometric characteristics. The scale was written entirely in English. It was translated into Urdu so that the intended audience could understand it better. In phase 2 research design, the inclusion and exclusion criteria for the study sample, instrument, research technique, ethical consideration, and data analysis were investigated.

Phase 1: Translation of the scale

The Sibling Inventory of Behavior and the Adolescent Wellbeing Scale have been translated. The Sibling Inventory of Behavior contains 32 items and measures the quality of the sibling relationship using six subscales: empathy, rivalry, aggression, avoidance, teaching directiveness, and companionship involvement. For the translation, MAPI guidelines were followed.

Step 1: Forward translation

Forward translation refers to the process of converting the scale into the target language (Antunes et al., 2012). The scales were initially distributed to three bilingual individuals in order to ensure a thorough understanding of the construct being measured during the translation from English to Urdu. These translators possessed advanced academic credentials, such as PhDs and M.Phils. They were told to translate the Sibling Inventory of Behavior and the Adolescent Wellbeing Scales into Urdu while keeping the sentences' meaning and sense consistent. After receiving the independent translations, a committee was formed to combine them into a single translated version.

Step 2: Backward translation

The obtained Urdu version was then translated back into English in the second step. The backward translation was carried out by three bilingual individuals. The three translated versions were then

compared and reconciled in order to produce a single unified Urdu translation. An expert thoroughly reviewed the backward translations. The committee merged the three translations into the final revised Urdu translation after blind reviewing them.

Step 3: Forward and backward translation review

Both forward and backward translations were carefully reviewed to obtain the final Urdu translation. The goal was to make sure that the items in both the English and Urdu versions were identical and consistent. The review was conducted by three bilingual experts who carefully examined both translations. The Urdu translation was finalized after their thorough review.

Step 4: Cognitive interviewing\pilot study

A cognitive interview and pilot study were conducted after the scale was translated to ensure its accuracy. The same population was given the scale, and cognitive interviews were used to assess respondents' comprehension of the instructions, items, and response options. Pre-testing was also carried out to assess the conceptual quality of the items. The scale was given to 25 students to determine their level of comprehension, and any issues or difficulties they encountered were noted. Based on the feedback received, necessary changes were made to simplify and clarify the scale.

Step 5: psychometric validation

Psychometric testing was carried out to ensure that the Urdu version of the scale has reliable measurement properties, allowing its users to produce consistent and accurate results. The Urdu version was administered to a sample of 25 siblings of autistic individuals for psychometric validation. The internal consistency and reliability of the scale were evaluated using alpha reliability.

Phase 2

Research design

The study employed a correlational research design.

Sample

The sample consisted of one hundred *(N=100)* siblings of autistic children.

Sampling strategy

A purposive sampling strategy was used to collect data.

Inclusion criteria

- The age of the child with an autistic sibling ranged from 4 to 10 years.
- Participants between the ages of 13 and 20 who had a diagnosed young sibling of a child with autism were eligible.
- Siblings of autistic children, both male and female, were included.
- Siblings of autistic children who live with their parents were included.
- Siblings of autistic children from Lahore were taken.
- Participants came from both the public and private sectors.
- Participants with younger siblings of autistic children were included.

Exclusion criteria

- Participants whose parents are separated, divorced, or widowed were barred from participating.
- Having another disabled sibling was disqualified.

Measures

Satisfaction with Life Scale

The Satisfaction With Life Scale is a 5-item questionnaire with a 7-point Likert scale that ranges from 1 (Strongly Disagree) to 7 (Strongly Agree). Over the course of two months, the scale demonstrated exceptional internal reliability, yielding an alpha coefficient of 0.87. Furthermore, it demonstrated exceptional test-retest consistency, indicated by a correlation coefficient of 0.82. Scores between 30 and 35 indicate an extremely satisfied individual, 25 to 29 indicate satisfaction, 20 to 24 indicate slight satisfaction, 15 to 19 indicate slight dissatisfaction, and scores between 10 and 14 indicate dissatisfaction, with scores between 5 and 9 indicating extreme dissatisfaction (Diener & Emmons, 1985).

Adolescent Well-Being Scale

The scale was developed to detect potential depression in older children and adolescents, and it has proven to be effective in this regard. It consists of 18 questions, each of which addresses a different aspect of an adolescent's life and the associated emotions. This scale is appropriate for children aged 11 to 16. According to Birleson (1981), it has good test-retest reliability ($r > .80$) and satisfactory internal consistency ($\alpha = 0.73$-0.90).

Sibling Inventory of Behavior

The Sibling Inventory of Behavior consists of 32 items divided into six subscales: empathy, rivalry, aggression, avoidance, teaching/direction, and companionship/involvement. The scale has good internal consistency, as demonstrated by a Cronbach's alpha value of 0.93 for both the Positive and Negative subscales. According to Schaefer and Edgerton (1979), it is presented using a five-point Likert scale, with good internal consistency (0.79-0.88) and test-retest reliability (0.74-0.94).

Aberrant Behavior Checklist

The ABC-C (Aberrant Behavior Checklist-Community) is a comprehensive 58-item questionnaire designed for caregivers to evaluate behaviors commonly encountered in individuals with Intellectual and Developmental Disabilities (IDD). Each item is rated on a scale of 0 (never a problem) to 3 (severe problem). The items are divided into five empirically derived subscales: irritability, agitation, and crying (15 items); lethargy/social withdrawal (16 items); stereotypic behavior (7 items); hyperactivity/noncompliance (16 items); and inappropriate speech (4 items). Furthermore, a Total Score can be calculated. The ABC demonstrated strong psychometric properties in preliminary evaluations of its usefulness. With a mean alpha of 0.91, it demonstrated high internal consistency across subscales. With a mean correlation of 0.98, test-retest reliability was excellent, and interrater reliability was acceptable, with a mean correlation of 0.63. Furthermore, the ABC exhibited moderate correlations with adaptive behavior assessments, with a mean correlation of 0.60 (Aman et al., 1985).

Procedure

The study was approved by the graduate program coordinator and the advanced board of research studies at UCP. Purposive sampling was used to collect data after obtaining permission from the University of Central Punjab and approaching various public and private sectors in Lahore. Regains Autism Centre, Children's Hospital Lahore, Love and Care Autism Centre, Akhtar Saeed Medical College Lahore, Services Hospital Lahore, and Grace Autism Centre provided data. A consent form was given to the participant's parents. The Aberrant Behavior Checklist, Sibling Inventory of Behavior, Adolescent Wellbeing Scale, and Satisfaction with Life Scale were used to collect data. Because minors cannot give consent, parental consent was obtained, and the participants' siblings of autistic children completed the questionnaires. Participants were given questionnaires and instructions on how to complete them. Following completion, the researcher checked for any missing items. The participants and institute officials were thanked for their cooperation, and the data collected was analyzed using SPSS 22 to draw conclusions.

RESULTS

This study's data was analyzed using a specific method that included four major steps. Cronbach's alphas were used to calculate reliability analyses for all variables in the first phase, and descriptive statistics were also generated. In the second step, Pearson Product Movement Correlation was used to examine the relationship between the variables. The third step investigated the role of disruptive behavior in mediating the relationship between sibling relationship quality and psychological well-being.

Finally, in the final stage of the analysis, we looked into whether there were any differences in variables based on factors such as gender and other demographics. This allowed us to determine whether these characteristics varied across different groups of people.

Descriptive Statistics and Psychometric Properties of Scales

Using Cronbach's alpha, mean, standard deviation, and ranges, the psychometric characteristics and descriptive statistics of assessment measures used were sought in table 2.

Descriptive Statistics

Table 1 Demographic Properties of the Sample (N=100)

Demographic Variables	Frequency *(f)*	Percentage *%*
Gender		
Male	39	39
Female	61	61
Family System		
Joint	33	33
Nuclear	67	67
Age of siblings		
13-16 Years	53	53
17-20 Years	47	47
Monthly Income		
20,000-60,000	36	36
Above 60,000	64	64
Father's Occupation		
Business	53	53
Govt. Employee	26	26
Private Employee	21	21

Table 1 displays participant frequency and percentages by gender, family system, occupation and monthly income. Male participants were more in number (*f* = 61, 61%) as compared female participants (*f* = 39, 39%). Participants with nuclear family system were (*f* = 67, 67%) and joint family system (*f* = 33, 33%). Father's occupation of the participants was; business (*f* = 53, 53%), govt. employee (*f* = 26, 26%) and private employee (*f* = 21, 21%). Participants with siblings age of 13-16 year (*f* = 53, 53%) were more as compared to participants with siblings age of 17-20 years (*f* = 26, 26%).

Reliability Statistics

Table 1 *Psychometric Properties of Scale (N = 100)*

Variables	*M*	*SD*	*Range*	*Cronbach's Alpha*
Disruptive Behavior	145.95	22.03	0-174	.74
Quality of Sibling Relationship	62.04	17.94	0-128	.84
Psychological Wellbeing	31.96	3.54	0-36	.77
Life Satisfaction	28.83	3.66	5-35	.75

Note. M= Mean, SD= Standard Deviation, α= Cronbach's alpha

Table 2 indicates mean, standard deviation, range and reliability coefficient of all study variables. The reliability analysis revealed that the reliability coefficient of disruptive behavior was (α = .74) which indicated satisfactory internal consistency. The reliability of quality of sibling relationship was (α = .84) which indicated high internal consistency. Reliability of psychological wellbeing is (α = .77) which indicated satisfactory internal consistency and reliability of life satisfaction was (α = .75), it was found satisfactory.

Hypothesis Testing

Table 2 *Descriptive Statistics and Correlation Matrix for all Study Variables (N= 100)*

Variables		*N*	*M*	*SD*	1	2	3	4
1.	Disruptive Behavior	100	145.95	22.03	--	-.29**	-.27**	-.34***
2.	Quality of Sibling Relationship	100	62.04	17.94		--	.27**	.23*
3.	Psychological Wellbeing	100	31.96	3.54			--	.33***
4.	Life Satisfaction	100	28.83	3.66				--

Note. N= No of Sample, M= Mean, SD= Standard Deviation
****p<.001, **p<.01, *p<.05*

The correlation matrix was computed using the Pearson Product Moment method Correlation to examine the bivariate relationship between disruptive behavior, quality of sibling relationship, psychological wellbeing and life satisfaction. Results indicate that disruptive behavior has a significant strong negative correlation with quality of sibling relationship (r = -.29, p<.01), psychological wellbeing (r = -.27, p<.01) and life satisfaction (r = -.34, p<.001). Quality of sibling relationship has a significant strong positive correlation with psychological wellbeing (r= .27, p< .01) and significant weak positive with life satisfaction (r = .23, p<.05). Psychological wellbeing has significant strong positive relationship with life satisfaction (r = .33, p<.001).

Table 4 *Simple Linear Regression Analysis (N= 100)*

Variables		B	β	SE
Constant		28.64***		1.24
Quality of Sibling Relationship		.05***	.27***	.01
R^2	.073			
ΔR^2	.073			

****p<.001*

Table 4 shows the simple linear regression analysis of prediction. The .073 value of R^2 indicate that quality of sibling relationship explains 7.3% variance in psychological wellbeing with [F (1, 98) = 7.27, p<.001]. The findings show that quality of sibling relationship is significant positive predictor of (β = .27, p<.001).

Table 5 *Regression Analysis for Moderation (N = 100)*

Variables	B	95% CI for B		SE B	β	p	R^2	ΔR^2
		LL	UL					
Step-1							.11***	.11***
Constant	31.96***	31.29	32.62	.33		.000		
QSR	.73*	.02	1.43	.35	.20*	.042		
DB	-.76*	-1.46	-.06	.35	-.21*	.033		
Step-2							.17***	.06***
Constant	32.10***	31.44	32.75	.33		.000		
QSR	1.01***	.30	1.73	.36	.28***	.006		
DB	-.95***	-1.65	-.25	.35	-.26***	.008		
QSRxDB	.50***	.12	.87	.18	.26***	.009		

Note. QSR= Quality of Sibling Relationship, DB=Disruptive Behavior, CI= Class Interval, LL= Lower Limit, UL= Upper Limit, SE= Standard Error
***p<.01, ***p< .001*

Table 5 shows the regression analysis for moderation of disruptive behavior between quality of sibling relationship and psychological wellbeing. In step 1, Findings indicate that R^2 value .11 revealed that predictor explained 11% variance in in the outcome with [F (2, 97) = 6.33, p< .001]. The finding revealed that quality of sibling relationship positively predict the psychological wellbeing (β= .20, p< .05) and disruptive behavior negatively predict the psychological wellbeing (β= -.21, p< .05).
In step 2, the R^2 value .17 revealed that predictor explained 17% variance in the outcome with [F (3, 96) = 6.83, p< .001]. The finding revealed that quality of sibling relationship positively predict the psychological wellbeing (β= .28, p< .001), disruptive behavior negatively predict the psychological wellbeing (β= -.26, p< .001) and disruptive behavior x quality of sibling relationship positively predict the psychological well being (β= .26, p< .001).
The ΔR^2 value of .06 revealed 6% change in variance of step 1 and step 2 with ΔF (1, 96) = 7.03, p<.001. Findings show that disruptive behavior moderated the relationship between quality of sibling relationship and psychological wellbeing.

Table 3 *Independent Sample T-test on Quality of Sibling Relationship (N=100)*

	Male		Female				
Variables	*M*	*SD*	*M*	*SD*	*t(98)*	*p*	*Cohn's d*
Quality of Sibling Relationship	61.66	17.27	62.64	19.15	.26	.79	0.05

Table 6 An independent sample t-test was conducted to examine potential gender differences in the mean scores of quality of sibling relationship among male and female. Results revealed non-significant mean differences on quality of sibling relationship with t (98) = .26, p>.05). Findings showed that quality of sibling relationship was high in female media (M= 62.64, SD= 19.15) as compared to male (M= 61.66, SD= 17.27) and effect size d= 0.05.

Table 7 *Independent Sample T-test on Quality of Sibling Relationship and Psychological Wellbeing (N=100)*

	Joint		Nuclear				
Variables	*M*	*SD*	*M*	*SD*	*t(98)*	*p*	*Cohn's d*
Quality of Sibling Relationship	65.61	24.12	60.28	13.82	1.40	.16	0.27
Psychological Wellbeing	32.85	3.02	31.52	3.71	1.77	.07	0.39

Table 7 showed independent sample t-test that was run to see whether there are family system differences in the mean scores of quality of sibling relationship and psychological well-being. Results revealed non-significant mean differences on quality of sibling relationship with t (98) = 1.40, p>.05) and psychological wellbeing t (98) = 1.77, p>.05). Findings showed that quality of sibling relationship was high in joint family system (M= 65.61, SD= 24.12) as compared to nuclear family system (M= 60.28, SD= 13.82) and effect size d= 0.27. Findings also revealed psychological wellbeing was high in joint family system (M= 32.85, SD= 3.02) as compared to nuclear family system (M= 31.52, SD= 3.71) and effect size d= 0.39. But the results were not significant enough.

Discussion and Conclusion

The current study set out to determine the relationship between the disruptive behavior and the psychological well-being, life satisfaction, and sibling relationships of children with autism. Both of the mental patterns that lead to having autistic siblings can present special difficulties. Compared to their peers, siblings of individuals with autism may go through distinct experiences and

responsibilities. Their outlook on life may change as a result of taking on additional duties associated with taking care of their sibling.

The quality of a sibling relationship is a significant positive predictor of psychological wellbeing, according to prediction. In this study, moderation was used to examine the relationship between disruptive behavior, psychological wellbeing, and the quality of sibling relationships. Results indicate that the relationship between psychological wellbeing and the quality of sibling relationships was moderated by disruptive behavior. The psychological wellbeing is negatively correlated with disruptive behavior, whereas the psychological wellbeing is positively correlated with disruptive behavior x quality of sibling relationship. The study also covered the gender gap; the findings showed that sibling relationships were of a higher caliber in female media than in male media. The study also demonstrated the variations in family systems, sibling relationships, and psychological health. The quality of sibling relationships was higher in joint families than in nuclear families, according to the results. Results also showed that joint family systems had higher psychological wellbeing than nuclear family arrangements.

Limitations

There are certain restrictions on the study that could have an impact. Cultural and socioeconomic factors can have an impact on sibling relationships; however, research has not always fully explored these aspects, which could lead to bias and limited generalizability across different populations. Some studies might unduly emphasize the difficulties and detrimental effects of having an autistic sibling, possibly ignoring the beneficial and enriching aspects of these relationships. Many factors affect sibling relationships, such as the environment and context of the family. These factors might not always be taken into account in full by research.

Suggestions

A qualitative study design should be applied in order to gain a deeper understanding of the relationship between these variables. The current study only included siblings with autism in a particular region; comparable research on all siblings from various parts of Pakistan should be carried out to increase the validity and reliability of the findings. Examining the function of co-occurring disorders: Patients with co-occurring disorders were not included in the study, which might have affected the findings. Future studies may look into how comorbid conditions affect siblings of autistic children's relationships with life satisfaction and disruptive behavior. Parental relationships and the family environment have an impact on sibling relationships in addition to the siblings themselves. To identify the precise effects of disruptive behavior on the sibling relationship, it is imperative to take these outside factors into account and manage them.

Future Implications

The current study's findings will help clinical psychologists and therapists better assist their patients. Since the study's findings were derived from people who were trained to manage autistic siblings, society will benefit from them. Knowing more about the significance of siblings for children with autism from this study will be beneficial. The ability to comprehend the relationships between autistic siblings and their parents is advantageous for clinical psychologists, who can then advice and counsel parents on how to take safety precautions for their child's safety as well as the safety of their siblings. The results of this study will be useful in understanding the difficulties faced by siblings of children with autism.

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