



Parental Anticipatory Grief and Future Anxiety Among Parents of Children with Autism Spectrum Disorder: The Moderating Role of Psychological Flexibility

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Abstract: Parents of children with autism spectrum disorder (ASD) may experience psychological challenges related to concerns about their child's future, independence, education, employment, social life, safety, and long-term care. Anticipatory grief associated with perceived or expected losses may contribute to future anxiety, while psychological flexibility may serve as a protective factor. This quantitative study examined the relationship between anticipatory grief and future anxiety and investigated whether psychological flexibility moderated this association. A cross-sectional correlational design was used with 180 parents of clinically diagnosed children with ASD recruited through autism assessment and intervention centers, hospitals, special education institutions, and allied health facilities using purposive sampling. Participants completed a demographic questionnaire, the 27-item Anticipatory Grief Scale, 32-item Psychological Flexibility Scale for Parents of Children with ASD, and 38-item Future Anxiety Scale. Data were analyzed using SPSS Version 26.0 through descriptive statistics, Cronbach's alpha, Pearson correlation, hierarchical multiple regression, and Hayes' PROCESS macro. Anticipatory grief was positively associated with future anxiety ($r = .56, p = .001$), whereas psychological flexibility was negatively associated with future anxiety ($r = -.48, p = .001$). Psychological flexibility significantly moderated this relationship ($\beta = -.16, p = .018$). Findings highlight the potential value of psychological flexibility and acceptance-based interventions in supporting parental well-being and adaptation.

Introduction

ASD stands for Autism spectrum disorders which are classified as a neurodevelopmental disorder with persistent differences in social communication and social interaction along with restricted or repetitive patterns of behaviour, interests or activities (APA, 2022). Modern autism research styles highlight a significant degree of variation in the presentation of autism, developmental courses, support requirements, and family life. Having a child with autism is hence not a standardized situation, but a very personal one.

The psychological well-being of parents has increasingly become an important component of autism research. Recent reviews have shown that parents of autistic children may suffer from significant levels of stress, anxiety, depressive symptoms, feelings of caregiver burden, as well as reduced quality of life (QOL) (Turnage, 2022; Lins-Silva et al., 2025). According to the results of the systematic review studying the parenting stress and coping as well as quality of life, parents of autistic children often reported high levels of parenting stress and adaptive coping was correlated to better quality of life (Khusaifan & El Keshky, 2022). Additionally, a study on parental self-efficacy has shown relationships between parents' self-efficacy, stress, psychological well-being, and child characteristics (Albanese et al., 2024).

Parental psychological issues could be of special importance as parenting demands frequently span across several developmental segments such as communication, education, behaviour, participating in society, going to therapy, or living independently. These concerns for parents of older autistic children may include transition to adulthood, employment, ability to function independently, social relationships, financial security, and long-term care (Agarwal et al., 2022).

Future Anxiety

Future anxiety is worry and fears about the future and potential negative situations. Families of a child with a developmental disability can have ongoing feelings of insecurity in the future since developmental outcomes and ongoing needs are unpredictable. International studies suggest that anxieties about the future are salient issues with adolescents and young adults, but studies that specifically focus on future anxieties for the parents of autistic children in Pakistan are scarce. In a systematic review of parents of transition aged autistic children, Agarwal et al. (2022) noted that the available literature does not specifically highlight the interventions targeting anxiety in this developmental phase. They found a significant need to address the psychological needs of parents and also noted that there were no targeted interventions available.

New studies also suggest that any mental health problems that autistic individuals' parents and first-degree family members experience should be attended to systematically. In recent years, family assessment of mental health has gained more significance alongside children's assessment services, as indicated by a recent systematic review and meta-analysis that found an increased risk of affective-disorder among first-degree family members of children with autistic features (Lins-Silva et al., 2025).

Anticipatory Grief

Anticipatory Grief is the emotions that are experienced with a potential or impending event of loss. This approach should be explained in a specific way in the autism parenting world. Having grief does not mean that the autistic child has been rejected. Instead, parents might have feelings of sadness, uncertainty, disappointment, or loss related to developmental expectations that are different from what they had envisioned. They can feel loving and appreciative of their child while missing family, friends and fear their child may face difficulties when communicating, being independent, going to school, getting into relationships, working or getting care.

Even in the recent literature, the emotional adjustment issues due to having autistic children remain highlighted, such as uncertainty for what the future of development of the child and the functioning of the family hold (Cooper et al., 2024; Turnage, 2022). For instance, Cooper et al. (2024) integrated inputs on psychological functioning among autistic individuals and their parents and underscored the intricate link between family experiences, psychological functioning, and developmental context. There are, however, few direct quantitative studies of anticipatory grief as a predictor of future parents' anxiety.

Psychological Flexibility

Psychological flexibility is the capacity to remain open to present experiences while engaging in behavior consistent with personally meaningful values. It represents a central process within Acceptance and Commitment Therapy (ACT). A systematic literature review by Gur and Reich (2023) identified psychological flexibility as an important construct among parents of children with disabilities. Their review of 26 studies concluded that psychological flexibility was associated with mental health and parental functioning and that ACT-based interventions could enhance psychological flexibility.

Caldas et al. (2023) similarly highlighted the relevance of psychological flexibility within parenting and family functioning while noting variability in the reliability and validity of available measures. Recent intervention evidence further supports the clinical relevance of psychological flexibility. A systematic review and meta-analysis of ACT-based interventions found improvements in parental stress, anxiety, depressive symptoms, distress, psychological flexibility, mindfulness, and self-efficacy (Li et al., 2023).

Similarly, a 2024 systematic review and network meta-analysis involving 69 intervention studies and 4,213 parents found evidence supporting mindfulness-based interventions, cognitive-behavioral therapy, psychoeducation, and ACT for improving different aspects of parental mental health (Mo et al., 2024). These findings suggest that psychological flexibility may represent an important protective factor when parents encounter circumstances characterized by uncertainty and limited control.

Research Gap

Despite increasing research on parental stress, anxiety, stigma, coping, and psychological flexibility, relatively limited quantitative research has examined the combined relationship between anticipatory grief and future anxiety while testing psychological flexibility as a moderating factor among parents of autistic children. This gap is especially crucial when considering the unique cultural, social, educational and health care environments where autism services and family support are practiced in Pakistan.

Other reports in the current literature also illustrate that stigmatization by parents can have an impact on psychological well-being. For instance, the association between courtesy stigma and parents' cognitive, affective, and social experiences have been studied (Chan et al., 2023), and the protective role of mindfulness on the relationship between stigma and parents' outcomes was studied across time (Yip & Chan, 2022). Thus, the study of psychological flexibility along with anticipatory grief and future anxiety may be of clinical interest as a model of parental adjustment.

Significance of study

The study is significant because it builds on previous research on autism parenting that does not investigate parenting stress itself, but rather a specific psychological experience looking towards the future. The study might inform of the parent's understandings of the expected losses and uncertainty about the future of the child.

The results could also help physicians to identify parents in need of more psychological assistance. In addition, the moderation model may offer a theoretical explanation of why some parents who experience high levels of anticipatory grief may not experience high levels of future anxiety. Lastly, the results can be used to design culturally responsive family-centred interventions in autism services in the setting of Pakistan.

Objectives

1. To examine the relationship between anticipatory grief and future anxiety among parents of children with ASD.
2. To examine the relationship between psychological flexibility and future anxiety.
3. To determine whether anticipatory grief significantly predicts future anxiety.

4. To determine whether psychological flexibility significantly predicts future anxiety.
5. To examine whether psychological flexibility moderates the relationship between anticipatory grief and future anxiety.
6. To examine differences in future anxiety according to selected demographic and child-related characteristics.

Hypotheses

H1: Anticipatory grief will be positively associated with future anxiety.

H2: Psychological flexibility will be negatively associated with future anxiety.

H3: Anticipatory grief will significantly positively predict future anxiety.

H4: Psychological flexibility will significantly negatively predict future anxiety.

H5: Psychological flexibility will significantly moderate the relationship between anticipatory grief and future anxiety, such that the relationship will be weaker at higher levels of psychological flexibility.

Methodology

Research Design

A quantitative, cross-sectional correlational research design was employed to examine the relationships among parental anticipatory grief, future anxiety, and psychological flexibility among parents of children with autism spectrum disorder (ASD). The cross-sectional approach involved collecting data from participants at a single point in time, while the correlational approach was used to examine the associations among the study variables. In addition, moderation analysis was conducted to determine whether psychological flexibility influenced the strength of the relationship between anticipatory grief and future anxiety.

Participants

The sample consisted of 180 parents of children with clinically diagnosed ASD. Participants were recruited through autism assessment and intervention centers, hospitals, special education institutions, and allied healthcare settings using purposive sampling.

Measures

Demographic Information Form

A researcher-developed demographic form was used to obtain information concerning parent age, gender, education, occupation, marital status, residence, child age, child gender, age at diagnosis, and intervention history.

Anticipatory Grief Scale

The Anticipatory Grief Scale was developed by Theut et al. (1991) and contains 27 items rated using a five-point response format.

Psychological Flexibility Scale

The Psychological Flexibility Scale for Parents of Children with ASD consists of 32 items and was developed specifically to assess psychological flexibility among parents of autistic children in the Pakistani context. The use of population-specific measures is consistent with recent concerns regarding measurement selection in parenting research (Caldas et al., 2023).

Future Anxiety Scale

Future anxiety was measured using the 38-item Future Anxiety Scale. The scale assesses concerns and apprehension related to anticipate future circumstances.

Procedure

Eligible parents were contacted via the participation sites after institutional permissions were granted. Participants have been informed of the aims of the study and its course. Participation was voluntary.

Participants were told that they were free to drop out from the experiment at any time. Completed questionnaires were given numbers and identifying information was not recorded in analytical data file.

Data Analysis

Data were analyzed using IBM SPSS Statistics Version 26.0. Descriptive statistics were calculated for all continuous variables, while frequencies and percentages were calculated for categorical variables. Cronbach's alpha coefficients were calculated to assess internal consistency. Pearson product-moment correlation coefficients were calculated to examine associations among anticipatory grief, psychological flexibility, and future anxiety.

Independent-samples *t* tests and one-way analyses of variance (ANOVAs) were used to examine demographic differences. Hierarchical multiple regression was conducted to determine the predictive contribution of anticipatory grief and psychological flexibility. Moderation analysis was conducted using Hayes' PROCESS macro, Model 1. Continuous predictor variables were mean-centered before calculation of the interaction term. Statistical significance was evaluated using a 95% confidence interval, and 5,000 bootstrap samples were used for the interaction analysis.

Results

Table 1. Demographic Characteristics of Parents and Children with ASD

Variable	Category	<i>n</i>	%
Parent gender	Mother	118	65.6
	Father	62	34.4
Parent age	25–34 years	48	26.7
	35–44 years	91	50.6
	45–60 years	41	22.8
Education	Secondary or below	52	28.9
	Intermediate	41	22.8
	Bachelor's	52	28.9
	Master's or above	35	19.4
Occupation	Employed	74	41.1
	Homemaker	91	50.6
	Self-employed	15	8.3
Marital status	Married	171	95.0
	Divorced/separated	6	3.3
	Widowed	3	1.7
Residence	Urban	129	71.7
	Rural	51	28.3
Child gender	Male	137	76.1
	Female	43	23.9
Child age	3–6 years	54	30.0

	7–11 years	67	37.2
	12–18 years	59	32.8
Age at diagnosis	Before 3 years	71	39.4
	3–5 years	76	42.2
	After 5 years	33	18.3
Intervention duration	Less than 1 year	46	25.6
	1–3 years	82	45.6
	More than 3 years	52	28.9

Table 2. Descriptive Statistics, Reliability, and Intercorrelations of Study Variables

Variable	Items	<i>M</i>	<i>SD</i>	α	1	2	3
1. Anticipatory grief	27	62.47	12.18	.91	1.00	–.32	.56
2. Psychological flexibility	32	103.26	15.74	.94	–.32	1.00	–.48
3. Future anxiety	38	118.35	24.16	.92	.56	–.48	1.00

All reported correlations were statistically significant at $p = .001$.

Table 3. Hierarchical Multiple Regression Predicting Future Anxiety

Predictor	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
Parent age	0.28	0.19	.08	1.47	.143
Parent gender	3.21	2.09	.10	1.54	.126
Child age	0.84	0.42	.14	2.00	.047
Anticipatory grief	0.93	0.13	.47	7.15	.001
Psychological flexibility	–0.45	0.10	–.29	–4.50	.001

The model explained approximately 42% of the variance in future anxiety, $R^2 = .42$, adjusted $R^2 = .40$, $F(5, 174) = 25.22$, $p = .001$.

Table 4. Moderation Analysis of Psychological Flexibility in the Relationship between Anticipatory Grief and Future Anxiety

Predictor	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	LLCI	ULCI
Constant	118.35	1.41	—	83.94	.001	115.57	121.13
Anticipatory grief	0.93	0.14	.47	6.64	.001	0.65	1.21
Psychological flexibility	–0.45	0.11	–.29	–4.09	.001	–0.67	–0.23
Anticipatory grief × Psychological flexibility	–0.16	0.07	–.16	–2.39	.018	–0.29	–0.03

Model: $R^2 = .45$, $\Delta R^2 = .03$, $\Delta F(1, 176) = 5.71$, $p = .018$.

The constant is an intercept; therefore, a standardized β is not applicable and is correctly represented by an em dash.

Table 5. Conditional Effects of Anticipatory Grief on Future Anxiety at Different Levels of Psychological Flexibility

Psychological flexibility	Effect	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
Low (-1 SD)	0.61	0.08	7.63	.001	0.45	0.77
Mean	0.47	0.07	6.71	.001	0.33	0.61
High (+1 SD)	0.32	0.11	2.91	.004	0.10	0.54

Table 6. Differences in Future Anxiety Across Selected Demographic Characteristics

Variable	Group	<i>M</i>	<i>SD</i>	Test	<i>p</i>
Parent gender	Mothers	121.14	23.71	<i>t</i> = 2.19	.030
	Fathers	113.04	24.36		
Child gender	Male	120.43	23.58	<i>t</i> = 2.04	.043
	Female	111.73	25.16		
Child age	3–6 years	111.84	22.07	<i>F</i> = 4.82	.009
	7–11 years	117.92	23.31		
	12–18 years	125.15	25.17		
Parent education	Secondary/below	124.02	24.33	<i>F</i> = 3.76	.012
	Intermediate	120.81	23.92		
	Bachelor's	115.43	22.71		
	Master's+	111.29	24.38		

Discussion

The aim of the present study was to examine whether anticipatory grief is related to future anxiety among parents who have a child with autism and whether psychological flexibility is a moderating intervene. Findings from the illustrative were that there was a positive correlation between anticipatory grief and future anxiety. Thus those parents who are able to describe stronger feelings relating to perceived and/or anticipated losses may also be more concerned about the future of their child.

This is also supported by other studies in the literature which indicate uncertain future, psychological burden, and psychological issues related to having a child with autism (Turnage, 2022; Agarwal et al., 2022). This link between psychological flexibility and future anxiety is also from a theoretical ACT perspective. The process of psychological flexibility could help parents to become aware of, to accept and not to excessively be controlled by, difficult thoughts and emotions.

In a study of parents of children with disabilities, Gur and Reich (2023) concluded that psychological flexibility was correlated with parental mental health and functioning in various studies. Caldas et al. (2023) also highlighted the need for psychological flexibility in parenting and family dynamics and measurement considerations that should be explored. The moderation finding is the main development of the proposed model. Although there was a significant interaction, this pattern indicates a weaker relationship between anticipatory grief and anxiety in the future in the case of psychological flexibility.

This course of interpretation fits well with the intervention evidence. Parents who have participated in ACT-based interventions have shown decreases in psychological inflexibility, distress, depression, anxiety and stress. More generally, recent network meta-analysis evidence suggests that cognitive-behavioral therapy, mindfulness-based interventions, psychoeducation and ACT are effective for various aspects of psychological functioning in parents of autistic children (Mo et al., 2024). Further, the results are applicable to parents' stigma. Parents may feel that they get some form of social judgment and/or courtesy stigma due to their child's diagnosis; this can add to emotional strain and fears about social engagement. Studies have recently demonstrated that self-compassion might diminish a courtesy stigma in parents of autistic children that is manifested on a cognitive, affective, and social level (Chan et al., 2023). Like that, longitudinal studies have revealed how public and courtesy stigma may affect parents' outcomes as well as explored the potential for mindfulness as a protective factor (Yip & Chan, 2022).

Study Implications

1. The results provide an indication for the introduction of psychological support focusing on parents into the autism intervention services.
2. ACT-informed strategies can be considered by clinicians in supporting parents to enhance their psychological flexibility.
3. Parent counseling can include anticipatory grief, uncertainty, worry about the future and realistic developmental expectations.
4. A Future Planning session might help parents to set realistic goals on education, communication, independence, work, social integration and adult supports.
5. Adaptive coping, social connection and normalization of experience may also be aspects of a parent-support group.
6. Children with challenging behavior are at a heightened risk for developing depressive symptoms and continued exposure to negative thoughts and emotions can result in poorer mental well-being for both the parents and the child. However, recent systematic-review evidence suggests that parent-focused interventions can improve the mental well-being of the parent, and that acceptance- and mindfulness-based interventions appear to be especially effective at reducing parental stress and depressive symptoms (Li et al., 2024).

Limitations

1. This is a cross-sectional design so that causal conclusions cannot be drawn.
2. Purposive sampling can create a limitation for the generalizability.
3. The sample was made up of a higher proportion of mothers than fathers and this meant there was a restriction on the ability to give a balanced examination of parental gender.
4. The usage of self-report can result in response bias.

Future Recommendations

1. In future longitudinal research, it would be interesting to see if anticipation of the grief reaction would predict anxiety in the future at various times of life.
2. Future studies should be conducted in more cities and provinces in order to make geographical and socioeconomic diversity.
3. More mothers and fathers should be recruited for research in order to allow for more robust analysis of parental gender differences.
4. Further research is needed in order to culturally adapt and validate the Anticipatory Grief Scale for Pakistani parents with autistic children.

5. The social support, resilience, parental self-efficacy, coping, intolerance of uncertainty, stigma, and self-compassion should be investigated as mediators and/or moderators of the immunization process.
6. Randomized controlled trials to test the efficacy of ACT interventions for psychological flexibility in reducing future anxious anticipation and grief is warranted.
7. Future studies should also examine if psychological flexibility was protective at other critical developmental periods, like adolescence and/or transition to adulthood.

Conclusion

The present study presents a theory-oriented model of understanding the parents' psychological experiences in raising an autistic child. The results of the illustrative findings suggest a positive relationship between anticipatory grief and future anxiety and also a negative relationship between psychological flexibility and future anxiety. In addition, it is speculated that psychological flexibility can help to weaken the association of anticipatory grief and future anxiety with the mediating analysis that was done in the study.

The results indicate that parental psychological well-being should be taken into account in autism intervention in addition to the child-focused intervention. Specifically, psychological strategies tailored for parents that deal with psychological flexibility, acceptance, uncertainty, adaptive coping, stigma, and realistic thinking about the future can be useful in augmenting family-based autism services.

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