



# SELF-EFFICACY IN RELATION TO STRESS IN MOTHERS OF CHILDREN WITH AUTISM SPECTRUM DISORDER

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## Abstract

This descriptive study aims to find out the relationship between self-efficacy and stress of the mothers of children with ASD. The differential effect of age and education on the stress of mothers and its relationship with self-efficacy was also explored. Data were collected from a simple random sample of 128 mothers of children with ASD from Thrissur district of Kerala. The measures included the Brief Stress Inventory for Mothers of Children with Autism Spectrum Disorder and the General Self-Efficacy Scale. The analysis revealed that neither age of the autistic children nor that of their mothers is a significant factor that discriminate the mothers of children with ASD on the basis of their stress. Educational qualification is, however, exert a significant differential effect on their stress. There is significant, but negative correlation between stress and self-efficacy of mothers of children with autism. Factors like age of the child, residential locale, and type of family have no significant differential effect on the relationship between stress and self-efficacy of mothers of children with autism.

**Index Terms:** Autism Spectrum Disorder, Stress, Self-efficacy, Differential effect.

## Introduction

It is well established that mothers of children with developmental and psychiatric difficulties are at risk for experiencing greater stress than mothers of typically developing children (Baker, Blacher, Crnic & Edelbrock, 2002; Hauser-Cram, Warfield, Shonkoff & Krauss, 2001; Hodapp, Ricci, Ly & Fidler, 2003). Brining up a child with Autism Spectrum Disorder (ASD) may face the mother with unique challenges due to the nature of ASD, as children with ASD are significantly impaired in social interaction and communication and show restricted and stereotyped patterns of behaviors (American Psychiatric Association, 2000). Mothers of children with ASD often have elevated levels of depression (Carter, Martinez, & Gray, 2009; Ingersoll & Hambrick, 2011) and report lower levels of well-being than mothers of children with other types of developmental disabilities (Eisenhower, Baker & Blacher, 2005; Blacher & McIntyre, 2006).

Mothers face unique challenges related to characteristics of children with ASD. Specifically, autism, unlike other forms of developmental disability, impairs social relatedness, which may be emotionally painful for mothers. Many, but not all, children with ASD also exhibit very unusual language and communication patterns, such as stereotyped speech, and odd and ritualistic behaviors. Such behaviors may pose difficulties for mothers when they spend time with their children in public situations, especially when uninformed people may misunderstand or misinterpret the child's behaviors. Thus, characteristics of children diagnosed with ASD may account for increased maternal stress. The hardness of caring an autistic child is related to the mother's beliefs about her capabilities to learn or perform behaviours at designated levels. This belief is termed as self-efficacy in psychological literature. Self-efficacy has been identified in the general parenting literature as an important variable affecting parent outcomes. The present study was designed to find out the relationship between maternal stress and self-efficacy of mothers of autistic children.

## Objectives

The study has the following specific objectives in view:

1. To compare the self-efficacy of the following sub-samples of mothers of children with ASD: (a) Sub-samples of mothers based on the age of autistic children, (b) Sub-samples based on the age of the mother of ASD children, (c) Sub-samples based on the educational level of the mothers of autistic children.
2. To find out the relationship between the stress and self-efficacy of the mothers of children with autism (*Total sample and relevant sub-samples*)
3. To compare the degree of relationship between stress and self-efficacy of following sub-samples of mothers of children with ASD: (a) Mothers of ASD girls and ASD boys, (b) Mothers residing rural and urban areas, (c) Mothers from nuclear and joint families.

## Hypotheses

The following null hypotheses were tested for the study:

1. Self-efficacy of the mothers of children with autism does not vary significantly based on the age of the child.
2. Self-efficacy of the mothers of children with autism does not vary significantly based on their age.
3. Self-efficacy of the mothers of children with autism does not vary significantly based on their education.
4. There is no significant relationship between self-efficacy and stress of mothers of children with autism.
5. The sub-samples of the mothers of children with autism do not differ significantly with regard to the degree of relationship between their stress and self-efficacy.

## Methodology

Normative Survey method was adopted for the present study. Mothers of children with autism, selected from different special schools in Thrissur Revenue District constituted the sample for the study (N = 128). *Simple random technique* was used for selecting the sample. The data for the study were collected by administrating the Brief Stress Inventory for Mothers of Children with Autism Spectrum Disorder (SIMCAD) (Arjunan & Bindu, 2014). The SIMCAD is a standardized instrument having a construct validity of 0.59 and a concurrent validity of 0.63. The test-retest reliability (4 weeks interval) of the instrument was found to be 0.72. The self-efficacy of the subjects was measured by using a Malayalam translated version of the General Self-Efficacy Scale developed by Jerusalem & Schwarzer (1979). The scale is designed to assess a general sense of self-efficacy with the aim in mind to predict coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events. In samples from 23 nations, Cronbach's alphas ranged from 0.76 to 0.90, with the majority in the higher range of 0.80. The tool was administered on the sample under standardized conditions and the data thus collected were analyzed using appropriate descriptive and inferential statistical techniques, performed both manually as well as with the help of SPSS (Windows 16.0).

## Analysis and Interpretation

In order to find out the differential effect of the age of child with autism on the self-efficacy of mother, the autistic children were separated into three age groups, viz., below 5 years, between 6 and 10 years, and above 11 years. The self-efficacy scores of the mothers of children in these three age groups were then compared by employing one-way ANOVA, the result of the same is presented in Table 1.

Table 1: One-way ANOVA: Age of the autistic child and mother's self-efficacy

SELF-EFFICACY	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	46.850	2	23.425		
Within Groups	2345.025	125	18.760	1.249	.290
Total	2391.875	127			

As evident from Table 1, the F-value obtained is not significant (F=1.249;  $p > 0.05$ ) showing that the self-efficacy of the mothers does not vary significantly with the age of the disabled child.

The differential effect of the age of the mothers of children with ASD on their self-efficacy was explored by performing one way ANOVA, after separating mothers into three groups, viz., high, average and low age groups based on the mean and standard deviation of their age. The result of the analysis done in this context is given below in Table 2.

Table 2: One-way ANOVA: Age and self-efficacy of the mothers of autistic children

SELF-EFFICACY	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	36.332	2	18.166		
Within Groups	2355.543	125	18.844	.964	.384
Total	2391.875	127			

The estimated F-value is not significant, revealing that there is no true difference among various age groups of the mothers of autistic children with regard to their self-efficacy. In another words, age is not a discriminating factor among the mothers of autistic children as far as their self-efficacy is considered.

The differential effect of education on the self-efficacy of the mothers of children with ASD was studied by separating them into four groups, via., mothers who have only primary education, mothers with secondary education, mother with Degree/Diploma, and mothers with Postgraduation/Professional degrees. The self-efficacy scores of the mothers based on their educational level were compared by applying one way ANOVA, and the result of which is given in Table 3.

Table 3: One-way ANOVA: Educational qualification and self-efficacy of the mothers of autistic children

SELF-EFFICACY	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	456.509	3	152.170		
Within Groups	1935.366	124	15.608	9.750	.000
Total	2391.875	127			

The result presented in Table 3 shows that there is a statistically significant difference between groups as determined by one-way ANOVA ( $F = 9.750$ ;  $p < .001$ ). The Tukey's post hoc test of intergroup comparison was further performed so as to find out the group-pairs which differ significantly. The data and result of the analysis is given in Table 5.

Table 5: Post hoc test for the comparisons of the stress of mothers with different levels of education

(I) Education	(J) Education	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Primary Edn (1)	2	-1.939	.992	.211	-4.52	.64
	3	-2.678*	.926	.023	-5.09	-.27
	4	-6.710*	1.256	.000	-9.98	-3.44
Second. Edn (2)	1	1.939	.992	.211	-.64	4.52
	3	-.739	.874	.833	-3.02	1.54
	4	-4.771*	1.219	.001	-7.95	-1.60
Degree/Dipl o (3)	1	2.678*	.926	.023	.27	5.09
	2	.739	.874	.833	-1.54	3.02
	4	-4.033*	1.166	.004	-7.07	-1.00
PG/Profnl. (4)	1	6.710*	1.256	.000	3.44	9.98
	2	4.771*	1.219	.001	1.60	7.95
	3	4.033*	1.166	.004	1.00	7.07

\*. The mean difference is significant at the 0.05 level.

The result of a Tukey post-hoc test revealed that significant differences exist between four pairs of groups compared viz., Group-1 (primary education) and Group-4 (postgraduates/professional degree); between Group-1 and Group-3 (graduates/diploma holders); between Group-2 (secondary education) and Group-4; and between Group-3 and Group-4. There were no statistically significant differences between all other group-pairs compared. A closer observation of Table 5 reveals that mothers with postgraduation/ professional degree excels all other groups in their self-efficacy.

**Correlation between Stress and Self-efficacy of Mothers of ASD Children**

The coefficient of correlation between SIMCAD scores and scores on the GSES of the mothers of autistic children for the total sample and the sub-samples based on gender of the autistic child, locale of residence, and type of family were calculated by Pearson's Product Moment Coefficient of Correlation (*r*-value). The data and result of the analysis done in this context are presented below in Table 6.

Table 6: Relationship between stress and self-efficacy of mothers of autistic children

Samples	N	r	SE <sub>r</sub>	Sig.	r <sub>POP</sub>	
					0.05 level	0.01 level
Total Sample	128	-0.435*	0.072	.01	-0.29 / -0.58	-0.25 / -0.62
Mothers of ASD Boy	92	-0.330*	0.093	.01	-0.15 / -0.51	-0.09 / -0.57
Mothers of ASD Girl	36	-0.579*	0.111	.01	-0.36 / -0.80	-0.29 / -0.87
Rural Residents	67	-0.464*	0.096	.01	-0.28 / -0.65	-0.22 / -0.71
Urban Residents	61	-0.408*	0.107	.01	-0.20 / -0.62	-0.19 / -0.63
Joint Family	22	-0.521*	0.155	.01	-0.22 / -0.82	-0.12 / -0.92
Nuclear Family	106	-0.419*	0.080	.01	-0.26 / -0.58	-0.21 / -0.63

The results presented in Table 6 shows that the coefficient of correlation between stress and self-efficacy of the mothers of autistic children for the total sample is -0.435 with a standard error (SE<sub>r</sub>) of 0.072. The obtained value is negative and significant at 0.01 level, indicating that there is a negative correlation between stress and self-efficacy of the mothers of autistic children; the correlation estimated is 'substantial' as the value of '*r*' falls between  $\pm 0.40$  and  $\pm 0.70$ . It is further revealed from the analysis that the values of the coefficient of correlations for all the sub-samples of the mothers of autistic children are negative and significant. The *r*-values obtained for the sub-samples under study show that the degree of relationship between the variables are 'substantial' for all subsamples except for the mothers of autistic boys where the degree of relationship was found to be *low* as the values lie between  $\pm 0.20$  and  $\pm 0.40$ .

**Comparison of the r-values of the Sub-samples of the Mothers of ASD Children**

The coefficient of correlation between stress and self-efficacy for the sub-samples of mothers based on the gender of autistic child, locale of residence, and type of family were compared to find out whether the groups under comparison differ significantly with respect to the degree of relationship between the variables. The data and result of the analysis made in this context are presented in Table 7.

Table 7: Comparison of the coefficients of correlation between stress and self-efficacy of sub-samples

Grouping of Mothers	Statistical Indices				CR-value	Sig.
	N	r-value	r. correct	z		
Mothers of ASD Boys	92	-0.330	-0.33	.34	1.57	Not Significant
Mothers of ASD Girls	36	-0.579	-0.58	.66		
Rural Residents	67	-0.464*	-0.46	0.48	0.221	Not Significant
Urban Residents	61	-0.408*	-0.41	0.44		
Joint Families	22	-0.521*	-0.52	.58	0.521	Not Significant
Nuclear Families	106	-0.419*	-0.42	.45		

As evident from Table 7, none of the CR-values obtained on comparing the correlations are not significant, showing that the correlations between stress and self-efficacy in different sub-samples do not differ significantly in the groups compared. To put it differently, the stress experienced by the mothers of autistic boys and autistic girls are equally influenced by their self-efficacy. Equally, neither the residential locale nor the type of the family is a significant factor in discriminating the mothers of autistic children in terms of the degree of relationship between the maternal stress and self-efficacy.

**Conclusions**

1. The self-efficacy of the mothers of autistic children does not vary significantly with the age of the disabled child. The Hypothesis-1 (self-efficacy of the mothers of children with autism does not vary significantly based on the age of the child), is therefore, accepted.

2. There is no true difference among various age groups of the mothers of autistic children with regard to their self-efficacy. The Hypothesis-2 (self-efficacy of the mothers of children with autism does not vary significantly based on their age) is, hence, accepted.
3. Education of the mothers of autistic children is a significant factor in discriminating them based on their self-efficacy. Mothers with higher educational qualification have better self-efficacy than those with lower educational status. The Hypothesis-3 (self-efficacy of the mothers of children with autism does not vary significantly based on their education) is, therefore, rejected.
4. There exist negative but significant correlation between the self-efficacy and stress of mothers of children with ASD. The Hypothesis-4 (there is no significant relationship between self-efficacy and stress of mothers of children with autism) is, consequently, rejected
5. There is no significant difference between different sub-samples of the mothers of autistic children in the degree of relationship between stress and self-efficacy. The Hypothesis-5 (the sub-samples of the mothers of children with autism do not differ significantly with regard to the degree of relationship between their stress and self-efficacy) is, thus, accepted.

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