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Differential Influence of Demographic Factors on Academic Stress of Higher Secondary School Students of Kerala

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ABSTRACT

This descriptive study aimed to find out the differential influence of selected socio-demographicfactors like gender, type of family, birth order, socio-economic status and the type of school management on academic stress of higher secondary school students of Kerala. The normative survey method was adopted to collect data from a stratified random sample of 1232 higher secondary school students (Male = 583; Female = 649) by administering the Academic Stress Scale for Secondary SchoolStudents and a Personal Data Sheet, both developed by the investigators. The data were analysed by employing independent sample t-test, one way ANOVA and Scheffe's post-hoc test to test five null hypotheses formulated for the study. The result showed that while socio-demographic factors like gender, type of family, birth order, and type of school management has significant differential influence on academic stress of higher secondary school students, the effect of socio-economic status is not significant. Being female student and member of nuclear family are contributory to academic stress among higher secondary school students. The 'only-child' experience greater academic stress than the 'last-born'. The government schools exert lowest academic stress on learners compared to schools in aided and unaided sector.

Keywords- Academic stress, socio-demographic factors, birth order, nuclear family and extended family.

I. INTRODUCTION

Academic stress is a growing problem among all student communities from pre-primary education to post-doctoral research. This stress is at its peak during secondary school period due to rigid school plan and unrealistic parental expectation on the adolescent learner. Wilks (2008) consider academic stress as the body's response to academic demands that outstrips adaptive capabilities of the learners. Academic stress is very prevalent among students at all levels. All learners would have been experienced some degree of stress related to academic activities in their educational career. An estimated 10-30% of students experience some extent of academic stress during their educational career (Aswartha & Lalitha, 2021).

In an Indian study Deb, Esben and Jiandong (2014) reported that 35% of high school students experience high to very high levels of academic stress. They found parental pressure as the major source of academic stress among secondary school students. According to the reports of National Crime Records Bureau, 1.8% of the students who commits suicide is due to academic failure stemming from academic stress (National Crime Records Bureau, 2020).

Persistent academic stress impairs not only the academic performance, but also the mental health of the learner. The learner loses the genuine motivation and interest in learning and become academically maladjusted.Many researchers have reported detrimental effect of academic stress on academic achievement of learners at different levels (Kotter, Wagner, Bruheim & Voltmer, 2017; Bernal-Morales, Rodríguez- Landa, & Pulido-Criollo, 2015). Academic-related stress is strongly related to decreased student academic motivation (Liu, 2015) and academic disengagement. Humensky et al. (2010) reported depressive symptoms, concentration difficulties, procrastination and trouble

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with completing school tasks among American students experiencing high academic stress.

Sources of academic stress are too many. Academic burden, curricular overload, too many assignments, frequent tests, pressure to perform, academic failure, peer pressure, crowded classrooms, knowledge explosion etc. are few to mention. In Indian context, parental pressure for better grade is, perhaps, the most common source of academic stress for secondary schoolers. Mishra (2017) reported academic workload and fear of poor performance in exams as the main sources of academic stress in Indian schoolers. Many researchers have revealed academic pressure as the major source of stress among secondary school students (e.g., Mehfooz & Haider, 2017). Alsulami et al. (2018) identified academic overload, oral presentation, shortage of time to complete assignments and taking examinations as major sources of academic stress. Highly competitive educational environment, threat of labelling as inferior etc. also contributes to academic stress which often lead to anxiety and depression (Gilbert, McEwan, Bellew, Mills & Gale, 2009). Studies have identified academic pressures (73%), notenough time for studies (63%), uncertain future/career (61%), financial causes (41%) etc. as the majorcauses of academic stress among Indian students (Meghna & Manjula, 2012).

Factors influencing the distribution of academic stress among student population are too many, ranging from the psycho-social make up of the student to the educational policy of the state. Alleviating academic stress necessitate jointed multilevel effort from teachers, administrators, parents and school psychologists. Understanding factors that influence the distribution of academic stress among student population is critical in planning psycho-pedagogic intervention for alleviating academic stress at school level. In this context the present study is a modest attempt to examine the differential influence of some of the socio-demographic factors that are likely to affect academic stress of higher secondary school students of Kerala.

Objectives of the Study

The objective of the study is to find out the differential influence of socio-demographic factors like gender, type of family, ordinal position, socio-economic status and type of school on academic stress of higher secondary school students of Kerala.

Hypotheses of the Study

The following null hypotheses were tested for the study:

1. Male and female students in the higher secondary schools do not differ significantly with respect to the academic stress.
2. Higher secondary school students from nuclear families and extended families do not differ significantly with respect to the academic stress.
3. There is no significant difference among higher secondary school students with different birth orders regarding their academic stress.
4. Higher secondary school students having different socio-economic status do not differ significantly with respect to their academic stress.
5. Higher secondary school students from government, aided and unaided schools do not differ significantly in their academic stress.

II. METHODOLOGY

The descriptive study employed normative survey method. Students of plus-one and plus-two classes of higher secondary schools affiliated to Kerala Board of Public Examination constituted the population of the study. The size of the population, as reported by government sources, is 764720. A stratified random sample of 1232 students (Male = 583; Female = 649) were selected from 23 higher secondary schools across four districts (Thiruvananthapuram, Ernakulam, Thrissur, and Kozhikode) of the Indian state of Kerala. Data were collected with the help of the Academic Stress Scale for Secondary School Students [ASSS] (Bindu & Happy, 2022) and a Personal Data Sheet prepared by the investigators. The ASSS is a 40-item Likert-type scale with five response alternatives (Very often, Often, Sometimes, Rarely and Very rarely) with a coverage of five dimensions, viz., Cognitive indicators, Affective indicators, Physical indicators, Social/Interpersonal indicators, and Motivational indicators. The instrument has an external validity (teacher rating as external criterion) of 0.68 and test- retest reliability (four weeks interval) of 0.77. The data were consolidated in a spreadsheet and subjected to statistical analysis by employing independent sample t-test, one way ANOVA and Scheffe's post-hoc test in SPSS (version 20.0 for Windows).

Analysis and Interpretation

The male and female students were compared with respect to their academic stress scores so as to find out the significant difference, if any, between the gender groups. The data and result of the independent sample t-test is presented in Table 1.

Table 1: Comparison of the academic stress of male and female students

Statistical Indices					
Sub-samples				t-ratio	Sig.
	N	M	SD	SEM	
Male	583	164.93	22.023	.912	
				6.380	.001
Female	649	172.49	19.563	.768	

The t-ratio estimated is significant beyond 99.9% confidence interval (t = 6.380; p<.001), revealing the presence of a significant difference between male and female students regarding the academic stress they

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experience. Examination of the mean scores indicates that female students experience greater academic stress than that experienced by their gender counterparts.

The differential effect of family type on academic stress of higher secondary school students were examined by comparing students coming from nuclear families and extended families by employing the t-test. Table 2 presents the data and result of the independent sample t-test performed in this context.

Table 2: Comparison of the academic stress of students from nuclear and extended families

Statistical Indices					
Sub-samples				t-ratio	Sig.
	N	M	SD	SEM	
Nuclear	700	175.26	18.968	.717	
				12.913	.001
Extended	532	160.55	20.855	.904	

The t-value computed on comparing the academic stress of higher secondary school students hailing from nuclear and extended families are significant (t = 12.913; p<.001), revealing the presenceof a true difference between family groups. Inspection of the mean scores exposes that students from nuclear families experience significantly higher academic stress than that experienced by their fellow students from extended families.

The differential influence of birth order on the academic stress of higher secondary school students were find out by comparing the Only child, First-born, Middle-born and Last-born students regarding their ASSS scores. The summary of one-way ANOVA performed in this context is given in Table 3.

Table 3: Comparison of the academic stress of students in different ordinal positions (Summary of ANOVA)

ACADEMIC STRESS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7710.117	3	2570.039		
Within Groups	540132.519	1228	439.847	5.843	.001
Total	547842.636	1231			

The F-ratio obtained is significant at .001 level, revealing that higher secondary school students in different ordinal positions differ significantly in their academic stress (F = 5.843; p<.001). Intergroup comparisons of the obtained differences were further carried out to find out whether the obtained significant differences exist between all the pairs of groups considered. The result of the *Scheffé post- hoc test performed* in the context is given in Table 4.

Table 4: Post hoc tests for comparisons of the academic stress of students in different ordinal positions

(J) Birth		Mean Difference			Mean Difference 95% Confidence Interval	
(I) BIRTH ORDER	Order	(I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
	F	3.996	1.791	.174	-1.02	9.01
ONLY CHILD (O)	M	2.265	2.391	.826	-4.43	8.96
	L	7.110*	1.799	.001	2.07	12.15
	O	-3.996	1.791	.174	-9.01	1.02
FIRST-BORN (F)	M	-1.731	2.101	.878	-7.61	4.15
	L	3.113	1.391	.171	-.78	7.01
	O	-2.265	2.391	.826	-8.96	4.43
MIDDLE BORN (M)	F	1.731	2.101	.878	-4.15	7.61
	L	4.845	2.108	.153	-1.06	10.75
	O	-7.110*	1.799	.001	-12.15	-2.07
LAST BORN (L)	F	-3.113	1.391	.171	-7.01	.78
	M	-4.845	2.108	.153	-10.75	1.06

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

The result of post-hoc test shows that the significant difference estimated among students in different birth orders is restricted to just one pair-combinations of the groups, viz., between the Only-child and Last-born (Mean difference = 7.110; p<.001). Students in the Only-child group experience greater academic stress compared to their fellow students in the Last-born group. No true difference was between other group pairs compared.

The differential effect of socio-economic status (SES) of the family on the academic stress experienced by the higher secondary school students were brought out by comparing the ASSS scores of students from Low, Average and High SES. The summary of the one-way ANOVA performed in thisregard is given in Table 5.

Table 5: Comparison of the academic stress of students from different socio-economic status (Summary of ANOVA)

ACADEMIC STRESS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1403.671	2	701.835		
Within Groups	546438.965	1229	444.621	1.579	NS
Total	547842.636	1231			

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The F-ratio obtained on comparing the academic stress scores of students from families in high, average and low socio-economic status are not significant (F = 1.579; p>.05). It shows that there is no true difference in the academic stress from students from different socio-economic status.

Higher secondary school students from government, aided and unaided school were compared by employing analysis of variance so as to find out the differential influence of type of school management on academic stress of learners. Table 6 presents the summary of the one-way ANOVA.

Table 6: Comparison of the academic stress of students from government, aided and unaided schools(Summary of ANOVA)

ACADEMIC STRESS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	56897.243	2	28448.622		
Within Groups	490945.392	1229	399.467	71.216	.000
Total	547842.636	1231			

The F-value estimated on comparing the ASSS scores of students from higher secondary schools in government, aided and unaided sectors is significant (F = 71.216; p<.001). It indicates a true difference among the school types with respect to the academic stress experienced by the students. Scheffe's post-hoc test was further performed to examine the groups which differ significantly, the resultof the same is given in Table 7.

ACADEMIC STRESS	Mean				
(I) SCHOOL (J) School	**Difference (I-J)**	**Std. Error**	**Sig.**	**Lower Bound**	**Upper Bound**
Aided	-10.409*	1.218	0	-13.39	-7.42
GOVT					
Unaided	-20.143*	1.865	0	-24.71	-15.57
Govt.	10.409*	1.218	0	7.42	13.39
AIDED					
Unaided	-9.734*	1.835	0	-14.23	-5.24
Govt.	20.143*	1.865	0	15.57	24.71
UNAIDED					
Aided	9.734*	1.835	0	5.24	14.23

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

The result of the *Scheffé post-hoc* test reveals that significant differences exist between all the group pairs compared. Putting differently, there is true difference among students from government, aided and unaided schools with respect to the academic stress experienced by the higher secondary school students. Students studying in government schools experience significantly lesser academic stress than their counterparts studying in aided schools (Mean difference = 10.409; p<.001) and unaidedschools (Mean difference = 20.143; p<.001). Likewise, students from aided schools experience significantly lesser academic stress than their colleagues studying in unaided schools (Mean difference = 1.234; p<.001).

III. CONCLUSION

The results of the analysis reveal that most of the socio-demographic factors considered in the study exert significant differential influence on academic stress experienced by higher secondary school students of Kerala. Gender is a significant factor that discriminate higher secondary school students on the basis of their academic stress (t = 6.380; p<.001). The hypothesis formulated in this regard *(male and female students in the higher secondary schools do not differ significantly with respect to the academic stress)* is, therefore, rejected. A true difference was also noticed between students coming from nuclear families and extended families in regard to their academic stress (t = 12.913; p<.001). The second hypothesis formulated *(higher secondary school students from nuclear families and extended families do not differ significantly with respect to the academic stress)* is, hence, rejected. The result of one-way ANOVA brought out that birth order exerts a significant differential influence on the academicstress of higher secondary school students (F = 5.843; p<.001). Therefore, the hypothesis formulated in this context *(there is no significant difference among higher secondary school students with different birth orders regarding their academic stress)* is also rejected. Socio-economic status of the family was found to have no significant differential effect on the academic stress of higher secondary school students (F = 1.579; p>.05). The fourth hypothesis *(higher secondary school students having different socio-economic status do not differ significantly with respect to their academic stress)* is consequently accepted. Type of school management was found to exert significant differential influence on academicstress of higher secondary school students (F = 71.216; p<.001). The last hypothesis (higher secondary school students from government, aided and unaided schools do not differ significantly in their academic stress) is, thus, rejected. The findings of the study throw light in to the fact that any psycho- pedagogic intervention for alleviating the academic stress of higher secondary school students should be adjusted after grouping them on the basis of these socio-demographic factors.

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