FACTORS INFLUENCING DEPRESSION AMONG SCHOOL STUDENTS IN SRI LANKA

Dr. Manjula Gunarathna

Senior Lecturer, Gr.1, Department of Social Statistics, University of Kelaniya, Sri Lanka.

Abstract

The World Health Organization (WHO) has recognized the pivotal role of mental health in overall well-being, particularly among children and adolescents. This study focuses on the factors associated with depression among school students in Sri Lanka, a population that has received relatively less attention in terms of mental health. Data was collected from 365 students aged 11-17 in the Colombo district, and multinomial logistic regression was employed to identify factors influencing different levels of depression. The study found that a significant proportion of students (86.1%) exhibited varying degrees of depression, with 18.4% experiencing severe depression. Family background factors such as parents' frequent fighting and strictness, as well as school-related factors like disciplinary measures and extracurricular activities, significantly impacted students' mental well-being. Additionally, language of study, age, family size, and the number of siblings played a role in students' depression levels. The findings emphasize the importance of addressing family dynamics, school practices, and the language of instruction in promoting students' mental health. Balancing academic expectations with emotional needs, fostering positive sibling relationships, and tailoring interventions to specific language contexts are essential steps in promoting holistic education and student well-being. This research contributes to a deeper understanding of the factors influencing depression among school students in Sri Lanka and provides valuable insights for mental health interventions in educational settings.

Keywords: Mental health, Depression, School Students, Multinomial Logistic Regression.

1. INTRODUCTION

The World Health Organization - WHO (2023) has recognized the profound significance of mental health in promoting individuals' overall health and well-being, a recognition underscored by its integration into Sustainable Development Goal (SDG) number three. In 2019, an estimated one in eight individuals worldwide lived with a mental disorder. Mental health conditions are under-treated and inadequately resourced in all countries, particularly concerning the lack of mental health services for individuals with psychosis (WHO, 2022). Moreover, According to WHO (2022), half of all mental problems in adults had already evolved by the time they were 14 years old, and three-quarters had manifested by the time they were 24 years. This means that around 8% of early children (ages 5 to 9) and 14% of teenagers (ages 10 to 19) worldwide live with a mental disease.

During adolescence, individuals strive to establish their presence within the social realm while formulating and pursuing personal aspirations and goals. As the number of domains requiring adaptation and the velocity of change to which adolescents must acclimate surpass those encountered during childhood, there is a corresponding escalation in the prevalence of mental health issues among teenagers (Kim, 2003). Hamrin and Pachler (2005); Dopheide (2006), have noted that depression emerges as the most prominent mental health concern during adolescence. In stark contrast to its infrequent occurrence in childhood, depression exhibits a substantial increase during the adolescent years. While the prevalence of depression among children remains below 3%, this figure surges to approximately 14% in adolescence (Lewinsohn et al., 1998). Daryanavard et al. (2011) asserted that depression is prevalent among adolescents, particularly high school students, and ranks one of the

most prevalent mental disorders in school-level students. Within this age cohort, depression exerts profound detrimental effects, affecting not only the execution of daily activities but also potentially culminating in life-threatening behaviors such as suicidal tendencies. This can engender the development of unstable family structures in the future, ultimately contributing to the emergence of a society marked by despair.

A comprehensive review of the existing literature reveals that adolescent depression is intricately linked to a range of demographic, familial, and scholastic factors. Parida et al. (2023) underscored that a mother's education degree is a key factor in determining the risk that her adolescent child may experience depression. Gender disparities also surface in this context, with Allgood-Merten et al. (1990) indicating that depression tends to be more prevalent among adolescent girls than boys. Furthermore, the incidence of depression is associated with pivotal life events, such as the death or divorce of parents (Denton & Kampfe, 1994), the presence of psychiatric disorders in family members (Williamson et al., 1995), exposure to abuse and neglect, academic underachievement, and a low-grade point average (Undheim & Sund, 2005).

A significant facet linked to adolescent depression pertains to self-esteem, where it has been observed that adolescents possessing higher levels of self-esteem exhibit a reduced likelihood of experiencing depression (Burwell & Shirk, 2006). Among the coping mechanisms employed by adolescents, problem-solving skills and assertiveness are prominent. Inadequate problem-solving abilities stand out as a significant risk factor in the initiation and perpetuation of suicidal behaviors (Speckens & Hawton, 2005). The utilization of a problem-solving approach is recognized as an effective strategy for the prevention and treatment of emotional issues in adolescence and early adulthood (Spence et al., 2003). Throughout the developmental transition from childhood to adolescence, the significance of peer relationships and the sociocultural milieu in which adolescents exist becomes markedly pronounced. The capacity to initiate and sustain interpersonal connections, as well as to manage the potential adverse influences of peers, plays a pivotal role in the psychological development of adolescents. Deficiencies in assertiveness skills are identified as a critical risk factor for depression and suicidal tendencies (Chan, 1993; Eskin, 1996).

In a cross-sectional study, 891 adolescents from Sri Lanka were selected, and it was shown that 57.7% of the participants showed high depressive symptoms. The usage of alcohol, smoking, and inactivity were discovered to be linked to increased depression symptoms (Perera et al., 2006).

Thus, the significance of addressing mental health issues, especially among school students, cannot be overstated, as highlighted by the WHO and supported by a body of research. The statistics provided by WHO emphasize the global prevalence of mental disorders, including among young children and adolescents, indicating that many mental health conditions emerge early in life. School students are in a critical period marked by unique challenges and transitions, during which individuals strive to establish their identities and adapt to a rapidly changing environment. This phase is particularly susceptible to the emergence of mental health issues, with depression being a prominent concern.

It is worth noting that adolescents and children represent a segment of the population whose mental health concerns have received relatively less attention compared to those of adults. Additionally, the available treatment options for such issues remain

insufficient in terms of quality and quantity. Consequently, examining the prevalence of mental health problems among adolescents and elucidating the associated factors assumes vital significance in the formulation and implementation of mental health services tailored to this demographic.

Considering these insights, the objective of this study can be derived as identifying the factors that influence for different levels of depression among school students in Sri Lanka

2. METHODOLOGY

The study is based on the assessment of depression levels among students in the Colombo district, specifically targeting individuals aged between 11 and 17 years old. To measure the level of depression within this age group, the study employs the LEVEL 2 Depression Child age 11 - 17 assessment tool, which is derived from the PROMIS Emotional Distress Depression Pediatric Item Rank published by the PROMIS Health Organization (2023).

Following the Yamane method, a total of 365 sample units have been chosen, ensuring the representation of male and female students within the Colombo district school population.

2.1 Data Analysis Techniques

The chi-square test statistics and multinomial logistic regression are applied to identify the factors that impact different levels of depression.

In this study, the dependent variables encompass four distinct categories of depression severity: 4 - severe, 3 - moderate, 2 - mild, and 1- none. To investigate the factors influencing these various levels of depression, a multinomial regression analysis was employed. The independent variables under consideration are detailed in Tables 1 and 2.

Table 1: Independent variables (Categorical)

Variable Name	Categories
Gender	1 – Male
	2 – Female
Type of Family	1 – Nuclear
	2 - Joint
Birth Order	1 – First
	2 – Second
	3 – Third and Above
Language of Study	1 – Sinhala
	2 – English
Father's Education	1 – Primary
	2 – Secondary
	3 – Higher Education
Mother's Education	1 – Primary
	2 – Secondary
	3 – Higher Education

Table 2: Independent variables (Continuous)

Variable Name
Age (in years)

| Number of Family members |
| Number of Siblings |
| Number of classes attended (per week) |

3. RESULTS AND DISCUSSION

Based on the analysis of responses collected through the assessment tool, as shown in Table 3, it is evident that a significant proportion of students, approximately 86.1%, exhibit varying degrees of depression. This prevalence can be attributed to a multitude of factors. Specifically, among these students, approximately 40% were found to experience mild levels of depression, while 32% exhibited moderate levels of depression. Notably, a concerning 18% of students were identified as having severe levels of depression. The highlighted results underscore the pressing need to address the underlying factors contributing to these significant levels of depression among students. Understanding and addressing these factors are crucial steps toward promoting the mental well-being of students and fostering a healthier learning environment.

Table 3: Level of Depression among school students

Level of Depression	Frequency	%
Severe	67	18.4
Moderate	116	31.8
Mild	131	35.9
None	51	14.0

3.1 Impact of Family Background on Student's Mental Wellbeing

To assess the influence of family background on students' depression levels, eight distinct attributes were considered. These attributes encompass various aspects of the family environment and include parents fighting frequently, parents being too strict, getting punished at home for any reason, the death of a family member in the past year, any family member with serious illness, any family member with mental illness, alcohol consumption by any family member and pressurized by the parents to perform well in the exam. Table 4 illustrates the impact of these family attributes on the levels of depression among students, providing valuable insights into the complex relationship between family background and students' mental well-being.

Table 4: Family Background Factors Associated with Depression

No	Attribute	χ^2	Contingency Coefficient	p-value
1	parents fighting frequently	17.704	0.215	<0.001
2	parents being too strict	61.605	0.380	<0.001
3	getting punished at home for any reason	14.137	0.193	0.003
4	the death of a family member in the past year	25.832	0.257	<0.001
5	any family member with a serious illness	1.110	0.055	0.775
6	any family member with mental illness	27.851	0.266	<0.001
7	alcohol consumption by any family member	35.367	0.297	<0.001
8	pressurized by parents to perform well in the exam	45.640	0.333	<0.001

Table 4 provides a comprehensive overview of the influence of various family attributes on students' depression levels. It is noteworthy that, except for the 5th attribute, all other family-related factors exhibit statistically significant impacts on

students' depression levels. The contingency coefficient reveals a strong association between stringent parenting practices and adverse effects on students' mental well-being. In addition, parental pressure to excel in exams also exerts a substantial influence on the mental well-being of students. This finding underscores the importance of considering parenting styles as a significant contributor to students' emotional health and emphasizes the need for interventions to promote a healthier family environment for students' mental well-being.

3.2 Impact of School Background on Student's Mental Wellbeing

Within the school-related attributes, all three factors examined exhibited a noteworthy impact on students' mental well-being. Among these factors, receiving disciplinary measures at school for any reason and active participation in extra-curricular activities demonstrated a particularly higher influence, surpassing the impact of the third attribute. This finding is visually represented in Table 5, which underscores the significance of these school-related factors in shaping students' emotional and psychological health.

Table 5: School Background Factors Associated with Depression

No	Attribute	χ^2	Contingency Coefficient	p-value
1	Get punished at school for any reason	57.952	0.370	<0.001
2	Participation in extracurricular activities	38.061	0.307	<0.001
3	Participation in sports	17.121	0.212	<0.001

3.3. Multinomial Regression Analysis to Identify the Significant Factors Affecting the Prevalence of Depression Among School Students

Based on the results of the multinominal regression analysis, the model fitness of the Chi-square test statistics is 635.876, and the p-value is less than 0.05. This demonstrates that the dependent variable and the independent variables of the fitted model have a significant relationship. Moreover, the Pearson and Deviance statistics indicate that the model is fit.

The Cox & Snell R^2 (0.825) and Nagelkerke R^2 (0.888) indicate that the explained variation in the dependent variables based on the model varies from 83% to 88%. Both statistics indicate the percentage of variance of the dependent variables explained by the model.

3.3.1 Simultaneous Test

The simultaneous test serves as a statistical significance examination designed to ascertain which variables concurrently impact the development of multinomial logistic regression models (Abdillah et al., 2023). This simultaneous test uses the likelihood ratio test which can be seen in Table 6.

Table 6: Simultaneous Test

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	309.403[a]	.000	0	.
Gender	309.403[a]	36.356	3	.000
Type of Family	309.403[a]	2.394	3	.495
Birth Order	309.403[a]	37.375	6	.000
Language of Study	309.403[a]	22.395	3	.000
Father's Education	309.403[a]	7.060	6	.315
Mother's Education	368.367[b]	58.963	6	.000

Age in years	372.148[b]	62.745	3	.000
Family Members	367.341	57.938	3	.000
Number of Siblings	309.403[a]	108.575	15	.000
Number of classes attend	344.131	34.728	3	.000

The results in Table 6 show that the significant independent variables that produce multiple logistic regression models are gender, birth order, language of study, mother's education, age, number of family members, and number of tuition classes attended.

3.3.2 Partial Test

The partial test uses the Wald Test to evaluate the relevance of each model parameter. (Abdillah et al., 2023). This test is performed to see if each independent variable can be relied on to build a model for determining the severity of depression. The partial test is obtained in Table 7.

Table 7: Partial Test Results

Depression Level	Variables	B	Wald	Sig.	Exp(B)
mild	Intercept	-109.242	.001	.976	
	[Language of Study= Sinhala]	2.620	3.617	.057	13.742
	[Language of Study= English]	0[c]	.	.	.
	Age in years	2.878	24.688	.000	17.775
	Number of Family Members	6.107	16.476	.000	448.994
	Number of Siblings	-1.907	6.915	.009	.149
moderate	Intercept	-74.039	.001	.974	
	[Language of Study= Sinhala]	4.056	7.487	.006	57.740
	[Language of Study= English]	0[c]	.	.	.
	Age in years	1.654	9.631	.002	5.229
	Number of Family Members	5.953	16.092	.000	384.851
	Number of Siblings	-1.453	6.445	.011	.234
severe	Intercept	-37.556	.000	.990	
	[Language of Study= Sinhala]	6.960	12.212	.000	1053.194
	[Language of Study= English]	0[c]	.	.	.
	Age in years	2.236	15.058	.000	9.355
	Number of Family Members	5.330	11.690	.001	206.388
	Number of Siblings	-3.662	18.056	.000	.026

The reference category is none.

As shown in Table 7, students with depression—mild, moderate, and severe—are significantly more affected by several factors than students without depression. These include their language of study, age, family size, and the number of siblings they have.

Based on the results, it can be stated that an increase in age and the presence of more family members appears to contribute to a higher level of depression among the students experiencing mild, moderate, and severe depression, as opposed to those without any depression. Notably, the findings also suggest that a greater number of siblings is associated with a reduction in depression among mild, moderate, and severe levels of depression students. Furthermore, it is noteworthy that students studying in the Sinhala medium exhibit higher levels of depression when compared to their counterparts in the English medium. According to the findings, the odds of experiencing mild depression are 13.74 times higher among students studying in the Sinhala medium than among those in the English medium, compared to students with no reported depression. Additionally, Table 7 reveals that this odds ratio escalates as the depression level advances from mild to severe. Specifically, students with severe depression who study in the Sinhala medium have significantly higher odds of

experiencing an escalation in their depression level compared to students with no reported depression.

Additionally, based on Table 8, a multinomial logistic regression analysis yielded a score of 70.7% for the accuracy of the classification of students' depression levels. The percentage for predicting depression of severe categories correctly was 67.2%, moderate categories correctly at 73.3%, and mild categories correctly at 74.8%.

Table 8: Classification Accuracy Test

Observed	Predicted				
	none	mild	moderate	severe	Percent Correct
none	30	6	8	7	58.8%
mild	6	98	13	14	74.8%
moderate	11	10	85	10	73.3%
severe	6	10	6	45	67.2%
Overall Percentage	14.5%	34.0%	30.7%	20.8%	70.7%

4. CONCLUSION

In summary, this study highlights the significant influence of various factors on students' mental well-being, including parental pressure, school disciplinary measures, and extracurricular activities. It also shows that students at different levels of depression are affected by factors like language of study, age, family size, and the number of siblings. While age and larger family sizes are associated with higher depression levels across all categories, a noteworthy exception is the positive impact of having more siblings on mild, moderate, and severe depression levels. Additionally, students in Sinhala medium programs tend to experience higher depression levels, with the odds increasing as depression severity rises.

5. SUGGESTIONS AND RECOMMENDATIONS

This study underscores the significant influence of parental pressure in academic achievement, disciplinary measures, extracurricular activities, and several other factors on the mental well-being of students across various levels of depression. It is evident that striking a balance between academic expectations and the emotional needs of students is crucial. Additionally, the unexpected finding of a positive correlation between the number of siblings and reduced depression levels highlights the importance of nurturing sibling relationships. Moreover, the language of study appears to play a significant role, with students studying in Sinhala experiencing higher depression levels, particularly as depression severity increases. These findings call for awareness campaigns, supportive disciplinary practices, and tailored interventions to promote students' mental health and well-being in educational settings, ultimately fostering a holistic approach to education.

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