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Impact of Family and Student Factors on Student Attitude Towards Reading in Governmental and Non-Governmental High School of Debre Birhan City

Gebremedhin Desta

Department of Statistics, College of Natural and Computational Science, Debre Birhan University, Debre Birhan, Ethiopia

Email address:
gmd202@gmail.com

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Abstract: Reading is the identification of the symbols and the association of appropriate meaning with them. It requires identification and comprehension. Comprehension skills help the learner to understand the meaning of words in isolation and in context. The purpose of this research is to determine the reading attitudes and Impact of Family and Students Factors on Students Attitude towards Reading of grade 9th and 10th high school students in Governmental and Non-Governmental High School of Debre Birhan City. Totally 247 students from two high schools is chosen according to random sampling method. In order to answer the research questions in the study, "the Attitude Scale towards Reading "was used. For the statistical analyses SPSS 20 was applied. In this study, 48.2 percent of high school students have negative reading attitude whereas the remaining 51.8 percent of the students have positive reading attitude with average reading attitude of the sample respondent 59. The chi-square test of independence indicates gender, place of coming, grade level, both mother and father education level and participation of the student in group discussion have statistically significant association with reading attitude of students (p-value <0.05). From the binary logistic regression high school students' reading attitudes differs significantly by student age, studding schedule, place of coming, attending in class and group discussion, Education level of both parents, weather condition of the city, grade level and Average financial income but not by gender, school type and economic status of the family.

Keywords: Reading, Reading Attitude, High School Student, Family and Student Factors

1. Introduction

1.1. Reading and Reading Attitude of Student

Reading is the identification of the symbols and the association of appropriate meaning with them. It requires identification and comprehension. Comprehension skills help the learner to understand the meaning of words in isolation and in context [1]. Reading is the ability to understand words contained in a document and make use of the knowledge for personal growth and development [2]. It is the most crucial determinants in developing an individual's vision that shapes his/her personality and that makes him/ her become closer to other individuals. Reading makes individuals truly free & protects them from ignorance and false beliefs [3]. It is a foundation for functioning in school and as a member of society.

Generally, reading is a basic tool for achieving emotional stability, enjoying leisure hours sharing the difficult experience which are in countered in books and for keeping abreast of happening in the world as large. For this reason, teachers, parents, librarians, an all concerned with shaping the emotional, cultural and educational growth and development of students must promote students reading interest and good reading habits. It is important to understand what factors influence students reading attitudes.

Students need a positive attitude towards reading to motivate their interest to read more challenging materials. An original definition of attitude focuses on the effects of an individual's mental state on their behaviors within a

particular situation [4]. The analyses of the results derived from the international assessments mostly reflect the tendencies of developing counties education systems and has little to do with tendencies of developed counties education systems. Since, the student test results of the developing counties are not analyzed, education policy and decision makers develop programs and set the policy directions based on the developed counties education models [5].

1.2. Importance of Reading

Any school curriculum is based on three main pillars: reading, writing, and oral communication. Generally, writing, reading and oral communication represents 60% of school curriculum at the elementary and middle school levels and 17% of school curriculum at the high school level [6].

1.3. Student and Parental Related Factors

The research showed girls read more books than boys and concluded that family background, parents' education level, number of books at home and student related factors were important contributors in student academic achievement [7, 8]. Parent's education is most important because they are their children's first teachers. Therefore, what they learn from their parents in the first couple years their lives will impact children for the rest of their lives.

1.4. Statement of the Problem

This study focus on two different high school students' reading attitude and factors affect reading attitude in Debre Berhan Town. Special attention was given to reading activity as one of the main determinants of student's success in all subject areas. The study looks at set of covariates grouped in three main categories: student, family, and Scio-demographic covariates that could explain the results of high school students reading attitude. The problem that contributes to students' poor performance is reading attitude or lack of proper reading habits. For an excellent performance, there is the need for the students to form good reading and study habits. At present, due to the influence of different factors, people do not show much interest in reading books; magazines and journals. Many parents and teachers complain about students of our generation who have not developed reading among themselves. The researcher was sure that to identify significant covariates affecting reading attitude of the student in Basso and Millennium academic high school can solve reading interest problem at other high school institution of Ethiopia. The following research questions are addressed in this study:

(1) What is students' attitude towards reading in two selected schools in Debre Berhan city?
(2) What are the factor affecting reading attitudes of students in2-school of Debre Berhan city?
(3) Is there a significant difference between high school students by gender? School type? Parents' education level?

1.5. Objective of the Study

1.5.1. The General Objective of the Study

The main objective of this study was to determine the factor that affect students' attitude towards reading in Basso and Millennium academic high school students in 2018.

1.5.2. The Specific Objectives of the Study

(1) To assess factor that affect student's attitude toward reading using descriptive statistics
(2) To classify the reading attitude of student using "the attitude scale toward reading"
(3) To determine whether a significant difference between high school students according to school type, family education level, and gender?
(4) To identify significant factor that affect student's attitude towards reading using logistic regression.

2. Data and Methodology

2.1. The Study Area and Population

The study area is Debre Berhan Town having more than 58,000 populations which is located in North Shoa Zone which is 130km from Addis Ababa-Ethiopia. It is named after one of the famous kings of Medieval Ethiopia and founder of the town of Debre Berhan, Zär'aYa'eqob (r.1434-1468). The Town is situated at 9.68^0North latitude 39.53^0 East longitudes and 2816 meters' elevation above sea level. The target population of the study was Basso and Millennium academic high school students in 2010 E. C. Among 2,034 students in grade 9th and grades 10th students in Basso and Millennium academic high school, 1,075 are male and 959 are female.

2.2. Method of Data Collection

In this cross-sectional study design, the data was collected by using self-administrated structured questionnaire. "Attitude scale towards reading gomleksiz liker scale was used In order to collect data to answer the research questions in the study. The scale consists of negative and positive attitude items in the scale and also other additional 13 close ended questions where used for collecting primary data from the sample respondent in Basso and Millennium academic high school students. The list of both Basso and Millennium academic high school students is taken as the sampling frame.

2.3. Sampling Technique and Sampling Size

The sample of students from both schools was taken by using the method of proportional allocation which means that the sample allocated to each school was proportional to the total number of student. Proportion of student having reading interest and not having interest is taken equal proportion. From the total of 2,034students, 247 student are taken as a sample with α= 5%.

3. Result and Discussion

3.1. Summary of Characteristics Using Descriptive Statistics and Chi-square Test

We used descriptive statistics such as frequency distribution explains the general characteristics of some attribute on the study. Out of 247 sample students in the two school, 48.2 (119) percent of them have negative reading attitude whereas the remaining 51.8 percent (128) of the students have positive reading attitude. The average reading attitude of the sample respondents is 59.05 and the average age of study participants is 17 years old with average standard deviation of one and half year. The Average financial incomes of student receive from their parent is 157.7 birr per month with the deviation ranges from 45 to 1000 birr.

2.4. Study Variables

Attitude towards reading is taken as dependent variable and the covariate sex, Age, Place of coming, Fathers education level, Mothers education level, Reading schedule, Class attending, Attending group discussion, Grade level, School type, Economic status of family, Financial income level, Weather condition are taken as independent variables.

2.5. Method of Data Analysis

Both descriptive and inferential statistics (Chi-square test of Independency and logistic regression) were applied for data analyses.

Table 1. Demographic characteristics of the sample student.

Variables	Categories	Frequency	Percent	Pearson Chi-square	DF	Sig. (2-sided)
Gender	Female	93	37.7	1.37	1	0.04
	Male	154	62.3			
Place of coming	Rural	69	27.9	9.668	2	0.006
	Suburban	70	28.3			
	Urban	108	43.7			
School	Millennium	84	34	2.307	1	0.141
	Basso	163	66			
Grade level	Grade 9	133	53.8	10.606	1	0.039
	Grade 10	114	46.2			
Effect of weather condition	No influence	65	26.3	22.183	2	0.088
	Not so mach	88	35.6			
	Has influence	94	38.1			

The Pearson chi-square tests the hypothesis that the row variables and student attitude are independent. From Table 1: for gender, place of coming and grade level, the significance value is so low that it is displayed as less than 0.05, which means that it would appear this three variables are, indeed, related or associated to students reading attitude. But the effect of weather condition in the city has marginally insignificant effect on reading attitude of students whereas at 0.05 level of significance, between reading attitude of students and school is no association.

Table 2. Student and Parental Related Factors of reading attitude in the two schools.

Variables	Categories	Frequency	Percent	Pearson chi-square	df	Sig. (2-sided)
Economic Status of Families	Low	81	32.8	0.139	2	0.288
	Medium	127	51.4			
	High	39	15.8			
Mother Educational Level	Illiterate	64	25.9	11.665	4	0.003
	Elementary	64	25.9			
	Higher Education	53	21.5			
	Diploma	40	16.5			
	Degree & Above	26	10.5			
Father Educational Level	Illiterate	51	20.6	9.04	4	0.002
	Elementary	41	16.6			
	Higher Education	83	33.6			
	Diploma	32	13			
	Degree & Above	40	16.2			
Attending In Group Discussion	Never	23	9.3	5.402	2	0.038
	Sometimes	122	49.4			
	Always	102	41.3			
Reading Schedule	No	73	29.6	11.815	1	0.545
	Yes	174	70.4			
Attending In Class	Some Times	65	26.3	0.77	1	0.927
	Always	182	73.7			

From statistical output of Table 2: both mother and father education level and participation of the student in group discussion have statistically significant association with reading attitude of students (p-value <0.05). But economic

status of family, student reading schedule and attending in class (some times and always) have high significance value which means that it would this 3-covariates are independent to students reading attitude.

3.2. Binary Logistic Regression Analysis of Factors Affecting Reading Attitude of Student

Binary logistic regression is typically used when the dependent variable is dichotomous and the independent variables are either continuous or categorical variables. Violations of the assumption of independence of observations may result in incorrect statistical inferences due to biased standard errors. Logistic regression is used to rank the relative importance of independent variable, to assess the interaction effect, and to understand the impact of covariate control variable.

3.2.1. Model Diagnostic Test

There are several steps involved in assessing the appropriateness, adequacy and usefulness of the model. 1st, the overall goodness of fit of the model is tested. 2nd, the importance of each of the explanatory variables is assessed by carrying out statistical tests of the significance of the coefficients.

The likelihood ratio test looks at the model chi-square difference by subtracting deviance (-2LL) for the final model from deviance for the intercept-only model. The degrees of freedom in this test equal the number of terms in the model minus one. Model chi-square measures the improvement in fit that the explanatory variables make compared to the null model. Under the global null hypothesis, H_0: $\beta1 = \beta2 = ... = \beta p = 0$ the likelihood ratio test statistic, G^2, follows a chi-square distribution with p degrees of freedom. Now look at the Table 5: Omnibus Tests of Model Coefficients gives us a Chi-Square of 137.299 on 23 df, significant beyond 0.001.

This is a test of the null hypothesis that adding 13 variables to the model has not significantly increased our ability to predict the decisions made by our subjects. The result shows the model with explanatory predicts better, and is statistically significant.

Table 3. *Omnibus Tests of Model Coefficients.*

	Chi-square	Df	Sig.
Step	137.299	23	.000
Block	137.299	23	.000
Model	137.299	23	.000

Under Model Summary given in Table 4: we see that the -2 Log Likelihood statistic is 124.654 which measures how poorly the model predicts the decisions - the smaller the statistic the better the model. Although SPSS does not give us this statistic for the model that had only the intercept, I know it to be 342.086. Adding the gender variable reduced the -2 Log Likelihood statistic by 261.953 – 124.654 = 137.299. The Cox & Snell R^2 can be interpreted like R^2 in a multiple regression, but cannot reach a maximum value of 1. The Nagelkerke R^2 can reach a maximum of 1. We suggest interpreting this statistic with great caution.

Table 4. *Model Summary.*

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
124.654[a]	.426	.652

The "Hosmer and Lemeshow Test" is a measure of fit which evaluates the goodness of fit between predicted and observed probabilities in classifying the response variable. This chi-squared value ($\alpha=0.05$ and df=8) is =24.359 and significance value =0.002. Therefore our fitted logistic regression model is good fit for the data. The predicted and observed values are closed.

Table 5. *Classification table.*

Observed		Predicted		
		Reading attitude		Percentage Correct
		Negative attitude	Positive attitude	
Reading attitude	Negative attitude	38	17	69.1
	Positive attitude	4	188	97.9
Overall Percentage				91.5

Another way of assessing the goodness of the fitted model is to see how well the model classifies the observed data. In the classification Table 5: possible to compute the values for Sensitivity, Specificity, False Positive Rate, and False Negative Rate for this model, using the default 0.5 cutoff. The results indicate that 69.1% of the respondents which is Negative attitude towards reading were correctly predicted

and 97.9% of respondents which is positive attitude towards reading were correctly predicted. Our model shows an overall percentage 91.5% of correct classification of respondents in their attitude towards reading either positive or negative. That is the fitted model has an overall predictive accuracy of 91.5%.

Table 6. *Variables in the Equation.*

Variables	B	S.E.	Wald	df	Sig.	Exp(B)	95% CI for EXP(B)	
							Lower	Upper
Gender(female)	.168	.547	.094	1	.759	1.183	.405	3.455
Age	-.467	.219	4.545	1	.033	.627	.408	.963
School(millennium)	.335	.664	.255	1	.613	1.399	.381	5.137
Reading schedule (No)	1.595	.773	4.254	1	.039	4.928	1.083	22.431

Variables	B	S.E.	Wald	df	Sig.	Exp(B)	95% CI for EXP(B)	
							Lower	Upper
Place of coming			14.463	2	.001			
Rural	-2.056	.768	7.165	1	.007	.128	.028	.577
Suburban	-3.361	.889	14.289	1	.000	.035	.006	.198
Class attending(sometimes)	-1.773	.772	5.274	1	.022	.170	.037	.771
Attending group discussion			8.641	2	.013			
Never	2.266	1.183	3.668	1	.055	9.636	.949	97.888
Sometimes	2.069	.712	8.440	1	.004	7.919	1.961	31.988
Economic status			2.405	2	.300			
Low	-.469	1.088	.186	1	.666	.626	.074	5.277
Medium	.686	1.101	.389	1	.533	1.986	.230	17.167
Education level of mother			17.871	4	.001			
Illiterate	-7.450	1.993	13.972	1	.000	.001	.000	.029
Elementary	-3.692	1.537	5.769	1	.016	.025	.001	.507
Higher education	-1.134	1.397	.659	1	.417	.322	.021	4.973
Diploma	-2.703	1.294	4.362	1	.037	.067	.005	.847
Education level of father			13.148	4	.011			
Illiterate	3.117	1.282	5.909	1	.015	22.575	1.829	278.625
Elementary	4.756	1.481	10.314	1	.001	116.254	6.381	2117.965
Higher education	3.896	1.228	10.071	1	.002	49.188	4.436	545.449
Diploma	1.496	1.126	1.766	1	.184	4.463	.491	40.534
Weather condition			24.009	2	.000			
No influence	-6.814	1.404	23.548	1	.000	.001	.000	.017
Medium	-1.413	.777	3.308	1	.069	.243	.053	1.116
Average financial income	-.009	.004	4.719	1	.030	.992	.984	.999
Grade level (grade 9)	2.180	.684	10.159	1	.001	8.849	2.315	33.822
Constant	14.115	4.047	12.165	1	.000	1348735		

3.2.2. Test of Individual Model Parameters

Test of individual model parameters note that the likelihood ratio test of individual parameters is a better criterion than the alternative Wald test when considering which variables to drop from the logistic regression model. The Wald statistic is an alternative test which is commonly used to test the significance of individual logistic regression coefficients for each predictor variable (that is, to test the Ho in logistic regression that a particular logit (effect) coefficient is zero.

Hypothesis testing:

HO: The coefficient no associated with the predictor is equal to zero ($\beta_i = 0$)

Ha: The coefficient is associated with the predictor is not equal to zero ($\beta_i \neq 0$)

Decision: if p-value is less than α-value =0.05 HO will be rejected at a given level of significance and we can conclude that the independent variable Xi has significant effect on the probability of success.

From Table 6: the estimated coefficients (under column $\hat{\beta}$) and the estimated values of logistic regression model that predict the total attitude of students towards reading. The standard error of the estimate will help in computing Wald statistics. The Wald statistics which is the square of the ratio of the coefficient to its standard error has a chi-square distribution with 1 degree of freedom. The significance of the Wald statistic tells the importance of the predictor variable in the model.

Based on the above basic concepts, the logistic regression results display in Table 6. It shows that student age, studding schedule, place of coming, attending in class and group discussion, Education level of both parents, weather condition of the city, grade level and average financial income have statistically significant effect on reading attitude of student at 5% level of significance whereas gender, school type and economic status of the family have no statistically significant effect on reading attitude. Results show that relationship between economic status and students reading attitude is low or non-existent [9].

In contrast to this study, other study show the present of reading attitude difference by gender [7]. Research results reveal that girls have more positive attitudes towards reading [10, 11, 12]. And also Pisa results indicating that at least for 15 years-olds, the difference was present across OECD countries between genders [13].

Here it is evident that factor such as age of students, education level of father, grade level and average income of family have negative effect on reading attitude in the high school student. That means as age of students, education level of father and average income of family increase their interest on reading become decrease. There is evidence that the relationship between attitude toward reading and achievement alters with age. In a recent meta-analysis relationship is significant for middle school students [14]. When the education level of mother increase from lower level to higher level, it leads to positive effect on reading attitude of high school student. Some papers have supportive finding to this argument [7, 8]. In opposite to this study, an exploration of the relationship between attitude towards reading and age has produced the consistent finding that attitude generally worsen over time [15, 16]. The other variable, like place of coming, class attending, cold weather condition have also effect on reading attitude of student. Place of coming reveal that students from urban have better

reading attitude than suburban and rural students. The weather condition in the town is cold that may cause students wait in the home intern it leads the student to read at home.

The column exp(B), is the factor by which the odds of the attitude of students towards reading change. If Bi is positive exp (B) will be greater than one, which means the odds of total attitude of students towards reading increase and vice versa. The odds of having positive reading attitude is 4.928 times for students have no reading schedule compare to student which have reading schedule. Similarly, the odds of having positive reading attitude is 8.849 times for grade 9 students compared to grade 10 student. The detailed separate analysis has given in the Table 6: which is indicated on the last column (Exp (B)).

The attitudes towards reading of 9th and 10th grade students indicated significant difference according to grade level in favor of ninth graders. As the years of educational experience of students at school rise, attitudes of students towards reading follow down. Tenth grade students, in other words the final graders of high school level of education, take the preparatory entrance examinations, known as "Ethiopian General Secondary Education Certificate Examination (EGSECE)" in the same year. Most of the students spend their time not on reading books but on solving problems in tests in order to better practice for these examinations in their last year. Besides, most of these students spend their time in order to better study taking private preparatory courses from grade nine both after school and at the weekends.

4. Conclusion

This study is undertaken to determine the effect of the socio-demographic characteristics on the attitude of students towards reading. Data from basso and millennium high school students in 2018 are used for analysis.

(1) Out of 247 sample students in both schools, 48.2 percent of them have negative reading attitude whereas the remaining 51.8 percent of the student have positive reading attitude with average reading attitude of the sample respondent is 59.05. The chi-square test of independence indicates gender, place of coming, grade level, both mother and father education level and participation of the student in group discussion have statistically significant association with reading attitude of students (p-value <0.05).

(2) From the binary logistic regression students age, studding schedule, place of coming, attending in class and group discussion, education level of both parents, weather condition of the city, grade level and average financial income of the students have statistically significant effect on reading attitude of student at 5% level of significance whereas gender, school type and economic status of the family have no statistically significant effect on reading attitude.

In conclusion, it can be recommended that future studies should be carried out in order to better understand the reasons of reading attitudes of high school students. Also, experimental studies can be carried out in order to understand whether the time spent on reading affects reading attitudes of students.

There are a variety of approaches to studying reading attitudes and factors affecting high school reading attitude. Qualitative approaches such as those recommended by [15] and others are certainly worthy of attention among older students as well. Several variables not included in the current study, including ethnicity, school factor, and instructional approach of teacher, may have important influences in how reading attitudes develop over time. Future study of these issues should attempt to take these factors into account in coming to a more complete picture of how attitudes change over time among secondary school readers.

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