

# The Myanmar JOURNAL

Parent Satisfaction on Service Quality of AEC Private School  
Khin Thet Htwé

The Effects of Work Engagement on Individual Work Performance in  
University of Co-operative and Management, Sagaing  
Wai Phyo Aung · Thu Zar Win

Time Series Analysis of Foreign Exchange Rate in Myanmar and Korea  
Ei Ei Aye

The Effect of Socio-economic Status on Educational Achievement in  
Kyaukpadaung Town, Mandalay Region, Myanmar  
Yin Mon Thant · Su Pan Hnin

FACTORS INFLUENCING PERFORMANCE OF SAVING AND CREDIT  
CO-OPERATIVE SOCIETIES IN SAGAING CITY  
Zin Nwe Htwé

Effect of Employee Training on Employee Performance of Private  
Hospitals in Mandalay  
Htet Htet Hlaing, Moe Moe Myat and Banyar Aung

Demography and Socio-economic Factors Affecting on Women's  
Empowerment Index in Sagaing Region, Myanmar  
Khin San Kyi · Khin Aye Myint

Determinants of Teachers' Attitudes towards E-learning in University of  
Co-operative and Management, Thanlyin and Sagaing Wai Wai Myint

Local Residents' Attitudes to Tourism Development in Min Kun,  
Sagaing Township, Sagaing Region  
Chaw Ei Ei Tun · Ei Shwe Sin Min Htun

Factor Affecting of Member Commitment on Co-operative Society in  
Myanmar : A Case Study of Loikaw Township, Kayah State Nway Oo

Work Stress and Its effect on Teachers' Performance: Case study of  
University of Co-operative and Management, Sagaing  
Wint War Khin

Motivation and Employee Job Satisfaction at Private Banks in  
Kyaukpadaung Ei Ei Po · Lin Yati Oo

The Role of Co-operative Microfinance in the Socio-economic  
Development of Members: A Case Study of Sin Min Agricultural  
and General Trading Co-operative Society Ltd., Sin Tāt Village,  
Sagaing Township Soe Yu Nwe

A Study of Urban Informal Sector in Mandalay, Myanmar  
Zaw Htet Pine

Time Series Analysis Model for Production of On-shore Gas in  
Myanmar Phyu Phyu Khaing · Yin Yin Wint

Effects of Logistics Activities on Firm Performance of  
Pharmaceutical Factory (Insein) Than Thu Zar

Improvement of Regulatory Risk Management System for  
Myanmar Insurance Industry  
Changsoo Lee, Ei Nandar Aung and Thiri Phyo Wai

Factors Affecting the Development of Small and Medium  
Enterprises in Momywa Industrial Zone, Sagaing Region : A Case  
Study on Food and Beverage Enterprises Daw Thin Thin Yu

Analysis of Public Debt: Implication for Economic Growth Rate of  
Myanmar Thida Htoo

Influencing Factors of Knowledge Sharing on Knowledge Workers  
Performance: Case Study in University of Co-operative and  
Management Khin Nyein Nyein Soe · Aung Chan Aye

THE EFFECT OF MARKETING COMMUNICATIONS ON BRAND  
EQUITY TOWARDS SMARTPHONES: CASE STUDY IN UNIVERSITY  
FOR THE DEVELOPMENTS OF THE NATIONAL RACES OF THE UNION  
Thu Zar Win · Wai Phyo Aung

The impact of Myanmar's festivals on economic growth  
Gwon Osung

## Letter from the Editor-in-Chief

Myanmar and Korea have many similarities and are complementary relationship. Therefore, we believe that research exchange will expand mutual understanding between Myanmar and Korea, and will be the cornerstone for mutual development.

KOMYRA and YUE have co-published The Myanmar Journal since August 2014. So far, many scholars have published numerous papers through the journal, and We are sure that this journal has helped many people understand Myanmar and Korea more clearly and closely.

The Myanmar Journal covers various issues in Myanmar and Korea. It covers various topics that can promote bilateral development and mutual understanding, not limited to specific topics such as economy, industry, society, education, welfare, culture, energy, engineering, healthcare, and agriculture.

We hope that this journal will continue to promote understanding of the current status and potential capabilities of Myanmar and South Korea and promote in-depth international exchange and cooperation.

We would like to express our deepest gratitude to the editorial board and YUE and KOMYRA for their valuable support in The Myanmar Journal publication.

February 28, 2022

Youngjun Choi *yj choi*

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## **INFORMATION ABOUT The Myanmar Journal**

The Myanmar Journal (ISSN 2383-6563) is the official international journal co-published by Yangon University of Economics (YUE) and Korea Myanmar Research Institute (KOMYRA).

This journal aims to promote the mutual cooperation and development of Myanmar and Korea through intensive researches in the entire field of society, economy, culture, and industry.

It will cover all general academic and industrial issues, and share ideas, problems and solution for development of Myanmar.

Articles for publication will be on-line released twice a year at the end of February and August every year on the Myanmar Journal webpage ([http://www.komyra.com/bbs/board.php?bo\\_table=articles](http://www.komyra.com/bbs/board.php?bo_table=articles)).

## The Effect of Socio-economic Status on Educational Achievement in Kyaukpadaung Town, Mandalay Region, Myanmar

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**ABSTRACT** : Educational achievement refers to the level at which a student has finished the most advanced level of the country's educational system, as determined by the country's social conditions. So, educational achievement of residents in Kyaukpadaung town is studied. The study of residents' socioeconomic status (SES) and educational achievement, as well as the analysis of the factors of educational achievement for residents in Kyaukpadaung town, are the two main goals. Primary data is collected through a two-stage random sample procedure using structural questionnaires. The first stage involves selecting four wards at random from Kyaukpadaung town's 12 wards, and the second stage involves selecting 290 residents at random from four wards. The descriptive method, wealth index for residents using principle component analysis (PCA), and ordinal logistic regression (OLR) are used to examine at the factors that affect residents' educational attainment. The majority of the people are female household heads with a Primary school education. Residents' monthly income is typically less than 375000 Kyats. The poorer the residents, the lower the educational attainment level in Kyaukpadaung town. The odds ratio shows that empowerment (none), marital status (unmarried), household size, age, labor force participation (not in labor force), gender (male), wealth index (poor), wealth index (rich) , wealth index (richest) and wealth index (middle) can order impact of predictor variables. According to the results of the relationship between socioeconomic status and education, that socioeconomic status has a significant impact on overall educational achievement. Therefore, educational attainment should be uplifted not only social and economic situations but also education as important to contribute to the national goals of eliminating extreme poverty and educated healthy residents in this town.

**Key words** : *Educational Achievement, Principal Component Analysis, Ordinal Logistic Regression Model*

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## **I. Introduction**

Education provides the bedrock for reducing poverty and enhancing social development. Education plays a vital role in human capital formation and it uplifts the productivity and efficiency of individuals. Education is widely held in high esteem as a means for children from low-income households to overcome economic problems and escape poverty.

Therefore produces skilled manpower that is capable of leading the economy towards the path of sustainable economic development. Furthermore, education plays a major part in the formation of human capital of a society and hence provides a strong foundation for the socio-economic development of the country by raising the efficiency and productivity of the individual residents and turns as skilled manpower, ensuring a sustainable economy (Memon, 2007).

Differences in educational achievement are associated with students' background characteristics and, while the most salient background variables may differ across education systems, a substantial amount of the variance in student achievement is normally explained by family (SES). So, family SES is considered an important factor in education research, but there are still challenges regarding how to best measure SES operationally.

Educational achievement has been the topic of discussion in both economics and sociology. The wealthiest and wealthiest households are those with the highest educational attainment. Income and educational attainment are intimately connected. Higher education and higher income are directly related, according to the human capital theory. Educational outcomes are one of the most important areas where family income has an influence, and people are also a key determinant of individual and social outcomes. Educational achievement influences economic and labor market outcomes such as income, occupation, and unemployment. Many social outcomes, including crime, health, and social standing, are also strongly influenced by educational achievement. Higher educational achievement was associated with higher labour force participation and a decreased risk of unemployment. The level of education had a significant impact on the unemployment rate (Ferguson et al., 2007).

A literate person is crucial to a country's economic growth in developing countries. According to the 2014 census, Myanmar's adult literacy rate is 89.5 percent, indicating that educational attainment is low, with 61.3 percent of the population aged 25 and up having received no or just primary school education. The census also shows that women pursue higher education at a higher rate than men.

Adults aged 15 and above have a low educational attainment rate, particularly in rural areas. In Myanmar, one out of every 10 adults has never attended school. The

percentage of urban adults who complete middle, high, and tertiary education is much greater.

Achievement is the key component in the process of teaching and learning. Everyone is concerned to know what makes a learner to be a high achiever and the researchers tried to find out the effect of different variables on achievement. This study investigates the relationship of learning style with socio-economic status and achievement of the residents of developed and under-developed districts (Akhtar and Niazi, 2011).

Not only socioeconomic status (SES) includes income, but it also includes academic achievement, wealth, and subjective perceptions of social position and socioeconomic status. Socioeconomic status can relate to a person's quality of life as well as the opportunities and benefits individuals have in society.

Myanmar was population of 51.4 million. It is ranked 150 out of 187 nations on the Human Development Index. Economic development has averaged 5 percent in recent years with a per capita income of USD\$702. Poverty levels are at an estimated 26 percent of the population. Poverty is twice as high in rural areas where 70 percent of the population lives.

Low SES and its correlates, such as lower educational achievement, poverty and poor health, ultimately affect the society. Inequities in health distribution, resource distribution, and quality of life are increasing in the society. SES affects overall human functioning, including education and health sector.

Therefore, there is no nation do not try to get the educational achievement at high level. Myanmar is now striving to achieve valuable inclusive and quality education opportunities for all citizens in accordance with the 2030 Sustainable Development Goal (MSDG, 2018-2020).

The impact of low and high educational success on socio-economic factors, especially family environment, is essential. The rationale of the study is to increase focus on the foundations of socioeconomic and education inequities and also efforts to reduce the deep gaps in socioeconomic status in this town. Therefore, socio-economic positions of residents and educational achievement in Kyaukpadaung town are analyzed in this study.

## **1. Objectives of the Study**

The two major objectives are:

- (i) to study the residents' socioeconomic status and educational achievement in Kyaukpadaung town
- (ii) to analyze the determinants of educational achievement for residents in Kyaukpadaung town

## **2. Scope and Limitations**

The socio-economic status of educational achievement level in Kyaukpadaung town's Aung Mingalar ward, Thar Yar Aye ward, Pyi Tharyar ward, and Thiri Mingalar ward in January 2021 survey is the focus of this study. The survey was limited to 290 residents in households from four of Kyaukpadaung town's twelve wards for people who one resident with less than 20 years old were excluded is studied. There is a difficult problem to include long period of time and finances and to aid the different effect of SES on resident' educational achievement. Thus, time factor, financial constraints and materials are limited this study.

## **3. Material and Method**

The main sources of data are primary using structural questionnaires with two stage random sampling method. The first stage is randomly selected four wards from 12 wards of Kyaukpadaung town and the second stage is randomly collected 290 residents in households from four wards by using simple random sampling method. Principal component analysis and ordinal logistic regression are applied to find out the determinants of educational achievement of residents in Kyaukpadaung town.

## **II. Literature Review**

At Asmara College of Education, Yemane and Okbay (2021) investigated the impact of (SES) and environmental factors on students' academic performance. The purpose of this study was to see if various environmental factors and family socioeconomic position have an impact on students' academic progress at Asmara College of Education in Asmara, Eritrea. To acquire information on this topic, students were asked to fill out a questionnaire survey. To study data, the authors employed descriptive statistics, crosstabs, Person chi-squared tests, and analysis of variance. The findings show that none of the variables studied, with the exception of student gender and learning resources provided by families, have an effect on cumulative grade point averages. Many students believe that developing intrinsic motivation, preparation, and good time management will help achieve better academic results.

Carlisle and Murray (2015) investigated the link between (SES) and academic performance. Factors such as socioeconomic segregation, school budget, teacher expectations, and academic climate will be discussed to understand the intricacy of this relationship. As educators, academics, and policymakers strive to address



inequities in academic success and educational attainment, the impact of SES on academic achievement is of worldwide importance. Efforts to guarantee that all kids have equal access to a quality education are also emphasized, with a focus on the importance of functional schools Carlisle & Murray (2015).

The correlation between socioeconomic status and high school students' learning achievement is studied in this paper (Akhtar and Niazi, 2011). The study's goal was to look into the influence of learning styles on secondary school students' socioeconomic position and achievement. The study also attempted to compare the learning styles, socioeconomic status, and academic achievement of schoolchildren in Pakistan's developed and underdeveloped districts. The study was descriptive in nature. Parents' academic and professional qualifications, parents' income group, job, family size, location and nature of accommodation, home amenities, transport amenities, school distance from home, and home coaching were the primary predictors. As a result, learning style was regarded as an independent variable, whereas socioeconomic status and academic achievement were handled as dependent variables. The main findings were that top achievers in developed districts choose independent learning techniques over collaborative learning styles.

Pettigrew (2009) examined a study conducted by East Tennessee State University on the impact of SES on student achievement in a rural east Tennessee school system. The goal of this study was to determine how socioeconomic status affected student academic achievement as judged by the TCAP Achievement Test and TCAP Writing Assessment. This study's statistical analyses were limited to five research questions and 15 null hypotheses. School (School A, B, C, and D) and socioeconomic level were the independent variables. According to the findings, socioeconomic position has the potential to significantly impact educational success. By just being made aware of the potentially destructive impacts of growing up in poverty, the school system under study and others like it across the country may seek to pool additional resources to examine more and counteract the negative effects of SES sooner.

### **III. Analysis and Finding**

In this study, residents' educational achievement, age, gender, family size, empowerment, marital status, wealth index, and labour force participation are used as interesting variables.

#### **1. Definition of Selected Variables**

The response variable (Y) is educational achievement, which is measured by seven predictor variables: gender, age, household size, empowerment, married status, wealth index, and labour force participation (X1, X2, X3, X4, X5, X6, X7).

Each predictor variable that includes several categories. These are:

Sex: Males are categorised and coded as 1 and females are classified and coded as 0.

Age: Number of years a person has lived at person's last date of birth in reference to the age.

Household Size: It represents the number of persons within the household.

Employment: The person's level of employment is determined by whether or not someone is the head of household. It is given a value of 1 for the head of household and a value of 0 for no one.

Marital Status: Two categories coded 1 for unmarried and 0 for married described people for marital status.

Wealth Index: Residents in the sample population were classified into five wealth index groups. As a coding system, 1 represents the poorest, 2 represents the lowest, 3 represents the medium, 4 represents the rich, and 5 represents the richest. The wealth index is based on the ownership of specific assets by households. Principal component analysis is used to calculate the wealth index (PCA).

Labour Force Participation(LFP): All people were divided into two groups: labor force, which included employees (government, private, and non-profit organizations), employers, own account workers, and those looking for work, and non-labor force, which included full-time students, household workers, pensioners, retirees, and those who were ill, with coding 1 and 0 respectively.

Educational Attainment: 1 for primary( Y1) (grade 1-5), 2 for middle (Y2) (grade 6-9), 3 for high (Y3) (grade 10-11), 4 for vocational or diploma (Y4), 5 for graduate Y5 as coded.

## **2. Descriptive Analysis of Socio-economic Status and Educational Achievements**

In descriptive analysis for determinants educational achievement and socio-economic status of residents in Kyaukpadaung town are showed in this table.

Table 1. Socio-economic Status and Educational Achievement of Residents in Kyaukpadaung Town

| Categories                       | Frequency | Percentage |
|----------------------------------|-----------|------------|
| Total                            | 290       | 100        |
| Gender                           |           |            |
| Male                             | 126       | 43.4       |
| Female                           | 164       | 56.6       |
| Age                              |           |            |
| 22-31                            | 91        | 31.4       |
| 32-41                            | 68        | 23.4       |
| 42-51                            | 75        | 25.9       |
| 52-61                            | 36        | 12.4       |
| 62-71                            | 20        | 6.9        |
| Number of Household Size         |           |            |
| 1                                | 12        | 4.1        |
| 2                                | 74        | 25.5       |
| 3                                | 75        | 25.9       |
| 4                                | 67        | 23.1       |
| 5                                | 38        | 13.1       |
| 6                                | 21        | 7.2        |
| 7                                | 3         | 1.0        |
| Levels of Educational Attainment |           |            |
| P (grade P1)                     | 62        | 21.4       |
| M (grade M1)                     | 96        | 33.1       |
| H (grade H1)                     | 77        | 26.6       |
| Vocational/ Diploma              | 9         | 3.1        |
| Graduated                        | 46        | 15.9       |
| Empowerment                      |           |            |
| Household Head                   | 266       | 91.7       |
| Non-Household Head               | 24        | 8.3        |
| Marital Status                   |           |            |
| Married                          | 253       | 87.2       |
| Unmarried                        | 37        | 12.8       |
| Labour Force Participation       |           |            |
| Labor force                      | 246       | 84.8       |
| Not in labor force               | 44        | 15.2       |
| Monthly Income (Kyats)           |           |            |
| 90000-375000                     | 175       | 60.4       |
| 375000-660000                    | 90        | 31.0       |
| 660000-945000                    | 16        | 5.5        |
| 945000-1230000                   | 6         | 2.1        |
| 1230000-1515000                  | 3         | 1.0        |
| Monthly Expenses (Kyats)         |           |            |
| 22100-162100                     | 90        | 31.1       |
| 162100- 302100                   | 145       | 50         |

|                |    |      |
|----------------|----|------|
| 302100- 442100 | 40 | 13.8 |
| 442100- 582100 | 12 | 4.1  |
| 582100- 722100 | 3  | 1.0  |

Source: Survey Data (2021)

According to the table above, males represent for 43.4 percent of household residents, while females represent for 56.6 percent. According to the data, this town has a higher ratio of female-headed households.

Table 1 illustrates the population of Kyaukpadaung town by age groups. According to this table, the age group of 22 to 31 years represents for 31.4 %, 32 to 41 years for 23.4 %, 42 to 51 years for 25.9%, 52 to 61 years for 12.4%, and 62 to 71 years for 6.9%. The working age group of 15 to 64 years is the largest among household residents. As a result, the number of working age people in this town outnumbers the number of dependents. As a result, it is evident that the labor force in this town is quite vast.

According to the data, 4.1 percent of residents have one family member, while 25.5 percent have two. Three family members account for 25.9% of the population. 4 family members make up 23.1 percent of the population. Residents with 5, 6, and 7 family members make up 13.1, 7.2, and 1% of the total respectively. As a result, the majority of homes have three family members.

The distribution of educational attainments in the sample residents is shown in the table above. More than half of the people completed 'primary' education, 33.1 percent completed 'middle level' education, and 26.6 percent completed 'high school level' education. 3.1 percent received a 'Vocational/Diploma,' 18.9 percent received a 'Graduated,' and 15.1 percent completed. As a result, the majority of individuals in Kyaukpadaung Town have completed primary and secondary school.

In terms of empowerment, 91.7 percent of residents are household heads, whereas 8.3 percent are non-household heads. It may be stated that the majority of the residents are empowered. It was also discovered that 87.2 percent of the residents in that town are married, while 12.8 percent are single.

It can be seen that 84.8 percent of residents are in the labor force, while 15.2 percent of residents are not in the labor force. As a result, the poorest residents of Kyaukpadaung Town do not participate in the labor force.

One seventy five residents earn between 90000 and 375000 Kyats, according to the table. Three residents had incomes ranging from 1230000 to 1515000 Kyats. As a result, the majority of inhabitants earn less than 375000 kyats. The monthly budget of 145 residents is less than 302100 Kyats. The minimum monthly outlay is Kyats 22100. The monthly spending of three households ranges from 582100 to 582100 kyats.

### **3. Residents' Properties**

According to the results of the survey, motorcycles are owned by the majority of households (67.0%). Horseboxes represent for 1.3 percent of all households. Car, mini oway, and tricycle owners account for 6.6, 2.3, and 2.3 percent of the population, respectively. Residents own 69, 31, 98.7, 72.4, 34.4, and 10.3 percent of TVs, radios, cellphones, rice cookers, refrigerators, and sewing machines, respectively.

Almost all of the residents (287 of them) own residential homes, while the remaining three are renters. The majority of the houses are made of wood or bamboo, accounting for 32.8 percent of the total. Brick houses account for 27.9% of the total, while RC dwellings account for the remaining 6.9%. 73.8 percent of the residents do not have access to loans.

Traditional toilets are used by the majority of households (62.8 percent). Water toilets are used by another 37.2 percent of households. Tube wells, fresh water, wells, rivers, lakes, and spring water provide drinking water to 11.4, 68.9, 4.1, 6.9, 5.2, and 3.4 percent of residents, respectively. 53.4 percent of households use a garbage car. 31.7 percent use a garbage fire, 23 percent use a river or stream, and 20 percent utilize no space.

Electricity is used by the majority of population (82.4%). Battery is used by 17.6% of residents. 73.4 percent of residents use electricity, 25.3 percent of residents use fire wood and 1.3 percent of residents use gas. Therefore, it can be assumed that the residents of this wards used electricity for energy and cooking.

### **4. Principal Component Analysis (PCA)**

PCA is a statistical procedure that uses an orthogonal transformation to convert a set of observation of possibly correlated variables into a set of values of linearly uncorrelated variables called principal components. This transformation is defined in such a way that the first principal component has the largest possible variance, each succeeding component in turn has the highest variance possible under the constraint that is orthogonal to (uncorrelated with) the preceding components. The method is mostly used as a tool in the exploratory data analysis and for making predictive models. PCA can be done by eigenvalue decomposition of a data matrix, usually after mean centering (and normalizing or using z-scores).

### **5. Wealth Index of Residents**

In this research, wealth index based on assets that relies on principal components

analysis measured wealth of the people of Kyaukpadaung town and table 2 shows wealth index of residents in Kyaukpadaung town by using principal components analysis.

Table 2. Wealth Index of Residents

| Wealth Index | Number of Residents | Percentage |
|--------------|---------------------|------------|
| Poorest      | 62                  | 21.4       |
| Poor         | 56                  | 19.3       |
| Middle       | 58                  | 20.0       |
| Rich         | 59                  | 20.3       |
| Richest      | 55                  | 19.0       |
| Total        | 290                 | 100.0      |

Source: Survey Data (2021)

According to the above table, almost 21.4 percent of residents are poorest and 20.3 percent of households are rich. The others poor, middle and richest are 19.3, 20 and 19 percent respectively.

## 6. The Ordinal Logistics Regression (OLR) Model of Educational Attainment

Ordinal logistic regression assumes that the coefficients describing the relationship between, say, the lowest versus all higher categories of the response variable are the same as the coefficients describing the relationship between the next lowest category and all higher categories in statistics.

The response variable  $Y_i$  is an ordinal educational attainment with five categories

$Y_1$  = Primary (grade P1),

$Y_2$  = Middle (grade M1),

$Y_3$  = High (grade H1),

$Y_4$  = vocational or diploma,

$Y_5$  = graduate,

The OLR model can be described as

$$\text{Logit}[\text{Pr}(Y \leq m)] = \alpha_m - (\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7) + \varepsilon$$

for  $m = 1, 2, \dots, M-1$

(3.1)

Where,  $M$  is the number of categories of the educational achievement and  $X_j$  represents the predictor variables. The  $\alpha_m$  is the cut points and  $\beta_j$  are the logit coefficients. According to this analysis,  $m$  be 1, 2, 3, 4 and 5 representing 1 for primary (grade 1-5), 2 for middle (grade 6-9), 3 for high (grade 10-11), 4 for vocational/diploma and 5 for graduate.

The predictor variables are gender( $X_1$ ), age( $X_2$ ), households size( $X_3$ ), empowerment ( $X_4$ ), marital status( $X_5$ ), wealth index ( $X_6$ ) and labour force participation

(X7). The variable age in years is continuous. Sex, empowerment, marital status, and labour force participation are dummy variables. The household size in number of persons is discrete variable. It is assigned 1 to male residents and 0 to female people. Empowerment is set to 1 if the person is the head of the household, and it is set to 0 if the person is not. The numbers 1 and 0 are assigned to unmarried people and married people, accordingly. For the poorest, poorest, middle, rich, and richest, the wealth index is divided into four categories: 1, 2, 3, 4, and 5. The person who does not participate in the work force and the person who does participate in the labor force are categorized as 0 and 1 respectively (Maw, 2021).

There are unique models that can explain how predictor variables connect to someone's educational attainment level being Higher or lower. The full model was created using a proportional odds model with seven predictor variables. In most cases, maximum likelihood is used to predict the model. In all models, the proportionate odds model assumes that the true values are the same. The only difference in models is the intercept terms,  $\alpha_m$ ,  $m = 1, 2, 3, 4, 5$ . This means that predicts from the five ordinal models could be pooled to provide just one set of  $\beta$  estimates. An estimate of the common odds ratio (or) can be obtained by exponentiation the pooled estimate relative to a given predictor.

Table 3 describes the value of coefficients and intercepts, and corresponding standard errors, t values, p values, odds ratios, and confidence intervals of the OLR analysis.

Table 3. Parameter Estimates and Odds Ratio of OLR Analysis

| Variables                  | Value ( $\beta$ ) | Std. Error | t value | p value | Odds Ratio | C.I    |        |
|----------------------------|-------------------|------------|---------|---------|------------|--------|--------|
|                            |                   |            |         |         |            | 2.5%   | 97.5%  |
| Gender (Male)              | 0.3198            | 0.2376     | 1.3457  | 0.0784  | 1.3768     | 0.8648 | 2.1975 |
| Age                        | -0.0536           | 0.0100     | -5.3521 | 0.0000  | 0.9478     | 0.9291 | 0.9664 |
| Household Size             | -0.0721           | 0.0876     | -0.8235 | 0.0102  | 0.9304     | 0.7830 | 1.1045 |
| Empowerment (None)         | -0.1086           | 0.3926     | -0.2766 | 0.7821  | 0.8971     | 0.4118 | 1.932  |
| Marital Status (Unmarried) | -0.0926           | 0.3373     | -0.2745 | 0.7837  | 0.9116     | 0.4697 | 1.7686 |
| Wealth Index (Poor)        | 0.5275            | 0.3402     | 1.5503  | 0.1211  | 1.6946     | 0.8707 | 3.3112 |
| Wealth Index (Middle)      | 1.3166            | 0.3406     | 3.8651  | 0.0001  | 3.7306     | 1.9219 | 7.3180 |
| Wealth Index (Rich)        | 1.2654            | 0.3482     | 3.6340  | 0.0003  | 3.5447     | 1.7973 | 7.0513 |
| Wealth Index (Richest)     | 1.3152            | 0.3536     | 3.7199  | 0.0002  | 3.7257     | 1.8722 | 7.5012 |
| Labor Force Participation  | - 0.2043          | 0.3134     | 0.6518  | 0.0145  | 1.2266     | 0.6629 | 2.2681 |

|                      |    |         |        |         |        |  |  |
|----------------------|----|---------|--------|---------|--------|--|--|
| (Not in labor force) |    |         |        |         |        |  |  |
| Y1                   | Y2 | -2.9123 | 0.5917 | -4.9219 | 0.0000 |  |  |
| Y2                   | Y3 | -1.1675 | 0.5666 | -2.0609 | 0.0394 |  |  |
| Y3                   | Y4 | 0.2844  | 0.5684 | 0.5005  | 0.0167 |  |  |
| Y4                   | Y5 | 0.5164  | 0.5711 | 0.9044  | 0.0658 |  |  |

Source: Survey Data (2021)

The predicted models can be written as

$$\text{Logit} [\Pr(Y \leq 1)] = (-2.9123) - [(0.3198) (\text{Sex} = \text{Male}) + (-0.0536) (\text{Age}) + (-0.0721) (\text{Household Size}) + (-0.2043)(\text{LFP} = \text{Not in Labour Force})] \quad (3.2)$$

$$\text{Logit} [\Pr(Y \leq 2)] = (-2.9123) - [(0.3198) (\text{Sex} = \text{Male}) + (-0.0536) (\text{Age}) + (-0.0721) (\text{Household Size}) + (-0.2043)(\text{LFP} = \text{Not in Labour Force})] \quad (3.3)$$

$$\text{Logit} [\Pr(Y \leq 3)] = (-2.9123) - [(0.3198) (\text{Sex} = \text{Male}) + (-0.0536) (\text{Age}) + (-0.0721) (\text{Household Size}) + (-0.2043)(\text{LFP} = \text{Not in Labour Force})] \quad (3.4)$$

$$\text{Logit} [\Pr(Y \leq 4)] = (-2.9123) - [(0.3198) (\text{Sex} = \text{Male}) + (-0.0536) (\text{Age}) + (-0.0721) (\text{Household Size}) + (-0.2043)(\text{LFP} = \text{Not in Labour Force})] \quad (3.5)$$

Given the estimates in units of ordered log odds, a one-unit increase in household size should result in a (-0.0721) decrease in the expected value of educational attainment on the log odds scale, assuming all other variables in the model remain constant. Similarly, with all other factors in the model maintained constant, a one-unit increase in the age variable decreases the ordered log odds of educational attainment in a higher category by (-0.0536).

The p values suggest that there is adequate evidence to determine that age is significant at the 0.01 alpha-level. In the 0.05 alpha-level, household size and labour force participation are significant. At the 0.1 alpha-level, gender (male) is significant.

The odds ratio describes the impact of predictor variables in the order listed: empowerment (none), marital status (unmarried), household size, age, labour force participation (not in labor force), gender (male), wealth index (poor), wealth index (rich), wealth index (richest), and wealth index (middle). If all of the predictor variables' confidence intervals are not zero, the parameter predict is statistically significant.

Converting the coefficients into odds ratios is another approach to interpret logistic regression models. Furthermore, males are more likely than females to have a higher cumulative level of educational attainment. Given that all other variables in the model remain constant, males have a 1.3768 times greater chance of having a higher cumulative degree of educational attainment. If the person is not the head of the household, the chances of having a higher level of educational achievement are 0.8971 times more than if the person is.



Poor residents have 1.6946 times the chance of being at or above a certain level of educational attainment, according to the residents in poor wealth index. The people in rich, richest and middle wealth index are more likely 3.5447, 3.7257 and 3.7306 times respectively greater than poor to be at or beyond a particular level of educational attainment. Thus, the wealth of assets in residents affects high level of educational attainment. An important fact to increase the wealth of residents is one of considered factor (Maw, 2021).

## 7. Performance of Fitted Ordinal Logistic Regression (OLR)

The following section shows the observed and expected percentage concerning of the levels of educational attainment.

Table 4. Observed and Expected Percentage

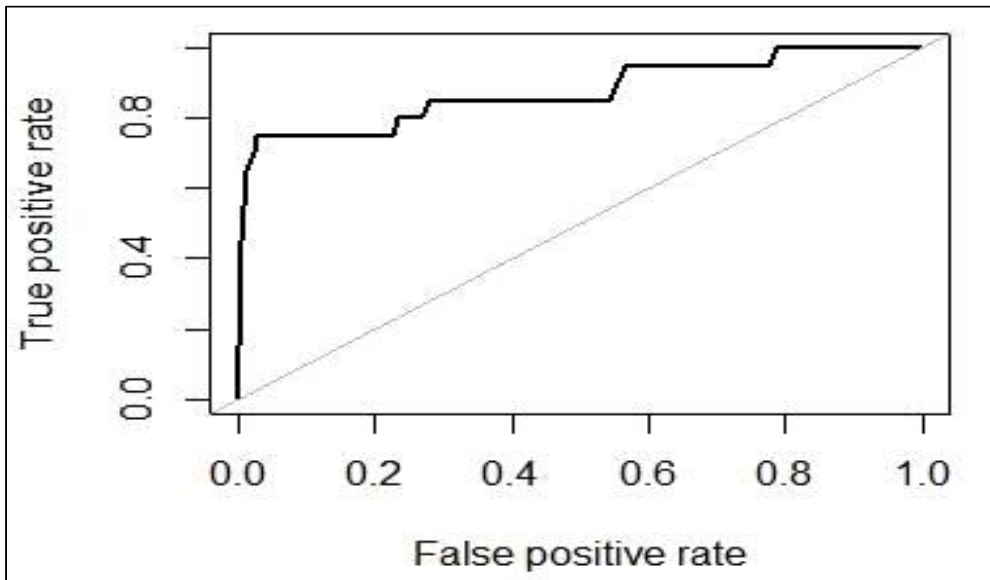
| Levels of Educational Attainment | Observed Percentage | Expected Percentage |
|----------------------------------|---------------------|---------------------|
| P (grade 1-5)                    | 21.4                | 21.2                |
| M (grade 6-9)                    | 33.1                | 33.3                |
| H (grade 10-11)                  | 26.6                | 26.8                |
| Vocational/ Diploma              | 3.1                 | 3.1                 |
| Graduated                        | 15.9                | 15.7                |
| Total                            | 100.00              | 100.00              |

Source: Survey Data (2021)

To determine the performance of fitted OLR, the mean values of expected probabilities by each category in educational attainment are computed.

Table 4 displays the observed and expected valued percent in all levels are almost same. Therefore, the fitted model serves good performance. The likelihood ratio Chi-square test,  $LR = 47.72324$  indicating that the full model with seven predictors provided a better fit than the null model. The difference between the two deviances is 58.2599. So, the fitted model serves also good performance in this analysis. The value of Akaike Information Criterion (AIC) is 781.4204 and the value of residual deviance is 809.4204. Both are useful for model comparison. AIC is the measure of fit for the number of model coefficients. As there is a model with minimum AIC value, it is a better model (Maw, 2021). The fitted model's accuracy is greater than 70%, as shown in Figure (3) Receiver Operating Characteristic (ROC).

Figure 3. ROC Curve



Source: Survey Data (2021)

## IV. Conclusion

### 1. Finding

According to this study, socio-economic conditions and educational achievement of residents in Kyaukpadaung town are analyzed. The numbers of female are more than the numbers of male in this study. Most of the households of the residents have three family members. Most of the people include under the age of 51 years. In empowerment, most of the residents are household head and labour force members. In Kyaukpadaung town, most of the residents are married. The majority of the population ride bicycles and use electricity, toilets, and tube water. As a result, the residents' social status is middle-class.

Most of the economic condition of the sample residents in the study area is that the residents spend as much as the resident earn of income and expenditure.

The majority of the people have a middle education level, according to educational achievement outcomes. Males are more likely than females to achieve a higher cumulative level of educational achievement. Given that all other variables in the model remain constant, males have a greater chance of having a higher cumulative level of educational achievement. If the person does not participate in

labour force, the odds of being more likely to the level of educational achievement that of the person is labour force participation.

After controlling for the effects of other predictors in the model, the people in poor wealth index is the odds for poor inhabitants to be at or above a certain level of educational attainment. Rich and richest people are more likely than poor people to be at or above a certain level, respectively. Given that the effects of other factors in the model are held constant, the odds ratio of being in higher level of educational attainment is greater for middle residents than for poor people.

By using ordinal logistic regression model, the determinants of educational achievement are considered with the effects of socio-economic factors of the residents in Kyaukpadaung town. The findings indicate that the level of educational achievement of a person is significantly affected by gender, age, household size, and labour force participation.

## **2. Suggestion and Recommendation**

Male residents in Kyaukpadaung town have higher education levels than female residents, which may be owing to most households favoring males for attending school. As a result, householders should ensure that everyone, regardless of gender, has the same opportunity for educational success. Furthermore, non-heads of household and single adults had higher academic achievement than other people. As a result, educational planning control should take a variety of forms among people of various educational levels. The majority of the people have a higher schooling. To improve the middle education to qualify education, the government and parents should focus primarily on education.

Almost all of the residents are poor hence boosting the wealth of the residents may be a significant factor. With 84.8 percent of the population participating, there are over 240 residents in the labor force, which is good for job opportunities and may help boost income levels. The greater the educational achievement's level in Kyaukpadaung town, the wealthier the residents. As a result, increasing the wealth of people should be considered a significant fact. It should also aim to reduce the shortage of formal education so that everyone may study more and more easily and reach a high degree of educational achievement.

To improve literacy and job opportunities, special training programs, vocational training, and lifelong adult education must be developed. These issues should be addressed through collaboration with various stakeholders. As the majority of residents have completed high school, the government and parents should prioritize education in order to improve the town's education level. It was necessary to work to enrich the lives of children and adolescents by meeting very important social,

health, and economic needs in future academic endeavors, because wealth is linked to educational attainment.

Therefore, it should take the plan of family policies with more investment in education for all family members and provide free education at all levels, including higher institutions, which thereby minimizes socio-economic constraints and provides equal opportunities to all citizens.

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