PATRON-CLIENT POLITICS IN KHYBER PAKHTUNKHWA: AN ANALYSIS OF 2008 GENERAL ELECTIONS VIA ORDINAL LOGISTIC REGRESSION MODEL♣

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Abstract

This research paper tends to explore the determinant of clientelism in the electoral politics of Khyber Pakhtunkhwa (KP) with reference to 2008 general elections. The study theorizes that the determinant of clientelism is important in unfolding the electoral politics in KP. The determinant of clientelism has been analyzed in terms of its indicators of "local development", "unemployment" and "participation in sorrowful and joyful activities" which have been referred as dependent variables. Area, Age, Gender, Profession, Monthly Income and Education have been termed as independent variables. Data has been collected through questionnaire technique from 800 respondents as a total sample size in NA-2 Peshawar through multistage random and systematic sampling from the voter list. Data analysis have been made via ordinal logistic regression model. The model concludes that the independent variables of Area Age, Profession, Monthly Income and Education are the most important variables in describing dependent variables of clientelism.

Key words

Parton-client Politics, Ordinal Logistic Regression Model, Electoral behaviour, 2008 general polls, Khyber Pakhtunkhwa.

♣This research article has been taken from the Ph.D dissertation entitled, *Voting Behaviour in Pakistan: A Case Study of Khyber Pakhtunkhwa in 2008 General Elections,* submitted to Pakistan Study Centre, University of Peshawar, Peshawar, Pakistan in 2014. In this thesis various determinants of voting behaviour have been discussed. This paper covers the determinant of clientelism of the voting behaviour in Khyber Pakhtunkhwa.

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Introduction

Clientelism, patron-client politics, patronage and clientage all are the same word and convey the same sense. It has been used by anthropologists, sociologists and political scientists.[1]

Clientelism as a determinant of voting behaviour, is given due importance in psephology.[2] It has been defined in a variety of ways by the scholars. According to Rene Lemarchand and Keith Legg, "Clientelism is the relationship between inferior and superior in terms of material resources."[3]According to Richard Graham historian, "Clientelism is the relationship of give and take between the patron an the client."[4]According to Leonard Wantchekon, "Clientelism is the relationship between the politician and the voter based on mutual interest."[5]

In the field of political science, clientelism can be defined as, "A mutual interest based relationship between the patron and the client wherein the former gives benefit to the latter and the latter in response give vote to the former."[6]

Clientelism is mostly applicable in those less developed countries where feudalism is of dominant social factor. As such it can be seen more in Southeast Asia, Southern Europe, Latin American and Africa. In Asian continent patron-client relationship is operational in Malaysia, Thailand[7], Burma,[8]Philippines[9] and Indonesia.[10] In Southern Europe the patron-client relationship is present in Southern and central Italy, western Sicily, Greece and Spain.[11] In Latin America, patron-client relationship exists in Columbia, Brazil and Mexico. In Africa the Senegal and Benin are important for patronage politics.[12]

In Pakistan, Wilder and Waseem cover the determinant of voting behaviour including the clientelism. Wilder studies clientelism in the Punjab with reference to 1993 general elections. He adds that clientelism exists more in rural areas of the Punjab than the urban areas.[13] Waseem determines theory of clientelism in Pakistan with reference to 2002 general elections. He describes clientelism in the shape of Downsian theory which involves the cost and benefit relationship between the voter (client) and politician (patronage).[14]

In Khyber Pakhtunkhwa, Imdad Ali Khan and Shakeel Ahmad describe the parton-client politics. Imdad Ali Khan discusses theory of clientelism in the shape of its indicator of local development with reference to 1985 elections. He prefers clientelism over issue voting in determining electoral behaviour in Khyber Pakhtunkhwa.[15]

Shakeel Ahmad discusses electoral behaviour in Khyber Pakhtunkhwa from 1988 to 1999. He demonstrates that clientelism

exists more in rural areas of Khyber Pakhtunkhwa than the urban areas.[16]

This paper asserts that clietelism is operational to a large extent in the electoral politics of KP with reference to 2008 elections. Clientelism has been measured in terms of its indicators of provision of employment, developmental aspect of clientelism and candidate's participation in sorrowful and joyful events.

Hypothesis

Clientelism plays an important role in describing voting behaviour in Khyber Pakhtunkhwa in 2008 general elections.

Research Questions

1) What is clientelism?
2) How far clientelism affects the electoral politics in Khyber Pakhtunkhwa?

Methodology

Quantitative and analytical methods have been used. In sampling the technique of multistage random and systematic sampling have been used. SPSS have been used for data anaysis and tabulation.

Justification for the Selection of Universe

The scope of the study is limited to the constituency of NA-2 in Peshawar. The following studies provide justification for the selection of the universe.

- Wilder in his work undertakes the case study of urban and rural areas in NA-97 Lahore.
- Ahmad in his work undertakes the case study of urban and rural areas in NA-1 Peshawar.

Sampling Method and Size

The size of Population

The population of the study is NA-2 Peshawar. According to 2007-08, there are total 314904 voters in which 192693 are male and 122211 female. The constituency of NA-2 has twenty union councils in which four are rural and sixteen urban. A total of 800 respondents have been selected from two rural and two urban union councils in the following way.

Two union councils from the rural i.e. Regi and Sufaid Dheri and two union councils from the urban i.e. Shaheen Town and Tehkal

Payan-2 have been selected through random sampling. In the next step, 200 voters have been selected from each union council through random and systematic sampling. Thus the total strength of the respondents was 800 in which 400 from rural and 400 from urban union councils i.e. (200+200+200+200). Some of the respondents did not return the questionnaire. The researcher could only get 613 questionnaires.

Ordinal Logistic Regression Model

In this research paper, the statistical analysis has been made via ordinal logistic regression/ordinal regression model because variables of interest (dependent variables) are categorical ordinal, having four possible answers (i.e. measured on 4-point likert scale). Ordinal logistic regression model is employed for making prediction in the ordinal dependent variable in light of independent variables. It is to find out which of the independent variables possess a significant effect on dependent variable. This model enables us to interpret that how a single unit increase or decrease in the independent variable is connected with the odds (chances) of the dependent variable having a higher or lower ordinal value. In this research paper, the following dependent and independent variables have been used.

Categorical Dependent Variables

- Clientelism and local development.
- Clientelism and provision of employment.
- Clientelism and electoral candidate's participation in sorrowful and joyful events.

All these dependent variables have been measured in light of 4-point likert scale (e.g. 1 = to a great extent, 2 = to some extent, 3 = to a limited extent and 4 = not at all).

Independent Variables

Age and Monthly income are continuous, while Gender, Area, Profession & Education are categorical independent variables

The general form of the ordinal logistic regression model is given as:

$$ln\left(\frac{prob(event)}{1-prob(event)}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_k$$

where $\beta_0, \beta_1, \beta_2 \ldots \beta_k$ are the intercept and coefficients associated with $X_1, X_2 \ldots X_k$ independent variables, respectively.

Assumptions of the Model

The following four assumptions are necessary to apply the ordinal regression technique on a dataset:

Assumption 1:

This assumption states that the dependent variable must be measured at ordinal level i.e. it should have a value from higher to lower. In this research study, the dependent variable(s) has/have been measured too in terms of 4-point likert scale ranging from "greater extent" to "not at all". Thus, this assumption of the model is satisfied.

Assumption 2:

The second assumption of the model states that independent variables must be continuous or categorical. In this paper, the age and monthly income are continuous while gender, area, profession and education are the categorical independent variables. Thus, this assumption of the model is fulfilled.

Assumption 3:

The third assumption states that independent variables should be free of correlation with each other. It means that there should be no multicollinearity among the independent variables. To check this assumption, VIF (Variance Inflation Factor) and Tolerance rate for each independent variable should be calculated. If the VIF value lies in the range of 1 to 10, and Tolerance rate is lying between 0 and 1, then there will be no multicollinearity. So, this assumption needs to be checked prior to model fitting.

Assumption 4:

The last but not the least is the assumption of proportional odds. It refers to the situation when the relationship between each pair of dependent variable category is same. This assumption can be checked using likelihood ratio test, which compares the two models, including full fitted location model, and the model with varying location parameters.

The statistical analysis is carried out via ordinal logistic regression between the dependent and independent variables as discussed above in the model. Before fitting the ordinal logistic model to the data, first we have to check whether the four assumptions are satisfied or not. As mentioned in above paragraphs that Assumption #1 and Assumption #2 are already satisfied. So, only assumption #3 (i.e. Multicollinearity) and assumption # 4 (i.e. proportional odds) need to

be checked with regard to each dependent variable. For this purpose, a multiple regression model is fitted using the Area, Gender, Age, Profession, Monthly Income and Education as independent variables, while the question of "Assuring of Local development", "assuring of provision of employment" and "candidate's participation in sorrowful and joyful events" as dependent variables.

Statistical Analysis with regard to assuring of Local Development

After fitting the ordinal logistic model to dependent variable of "assuring of local development", the following five tables obtained through SPSS which are tabulated as:

Table 1: VIF and Tolerance rates

		Collinearity Statistics	
		Tolerance	VIF
	Area	.968	1.034
	Gender	.871	1.148
	Age	.917	1.091
	Profession	.768	1.302
	MIncome	.854	1.170
	Education	.794	1.260

Table1 gives the results of VIF and Tolerance rates which shows that all the VIF are lying between 1 and 10 as well as Tolerance rates are lying between 0 and 1, so there is no multicollinearity problem. Thus assumption # 3 is satisfied.

Table 2: Test of Parallel Lines

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	619.041			
General	604.910	14.131	18	.060

Table 2 shows the "test of parallel lines" which has two rows: one row with heading "Null hypothesis" and the other with heading "General". The p-value (i.e. Sig >0.060) indicates that the fourth assumption of proportional odds is satisfied. So, we can proceed to apply the ordinal logistic regression.

After satisfying all the four assumptions, an ordinal regression model is fitted on the data by using SPSS package which gives the following tables.

Table 3: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	676.432			
Final	659.041	17.391	9	.043

Before examining the individual effect of each independent variable, an overall effect of the fitted model is tested. For this purpose, two models are being compared: one contains the "Intercept Only" (i.e. when the model does not contain any independent variable), while the other contains the "Final" (i.e. containing all the independent variables). The two models are compared using chi-square statistic and the results are mentioned in table 3. It is evident that the significance value is less than 0.05, so it can be concluded that the Final model gives a significant improvement over the baseline intercept-only model. In other words, the fitted model gives better predictions than if we ignore the independent variables.

Table 4: Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	882.325	858	.275
Deviance	652.110	858	1.000

The next table contains the Goodness-of-Fit values, as shown in Table 4. The significance level of the two statistics are greater than 0.05, so it can be concluded that the observed data are consistent with the fitted model.

Table 5: Parameter Estimates

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[Local_Dev = 1.00]	-.345	.339	1.033	1	.309	-1.010	.320

	[Local_Dev= 2.00]	.756	.341	4.905	1	.027	.087	1.424
	[Local_Dev = 3.00]	1.893	.357	28.142	1	.000	1.194	2.592
Location	Age	-.014	.006	4.662	1	∗.031	-.026	-.001
	Mincome	-1.417E-5	1.432E-5	.979	1	.322	-4.225E-5	1.390E-5
	[Area=1.00]	.224	.159	1.985	1	.159	-.088	.537
	[Area=2.00]	0[a]	.	.	0	.	.	.
	[Profession=1.00]	.387	.403	.920	1	.337	-.403	1.177
	[Profession=2.00]	.687	.394	3.038	1	∗∗.081	-.086	1.459
	[Profession=3.00]	.401	.449	.797	1	.372	-.479	1.280
	[Profession=4.00]	.337	.423	.633	1	.426	-.492	1.166
	[Profession=5.00]	0[a]	.	.	0	.	.	.
	[Education=1.00]	-.236	.190	1.538	1	.215	-.609	.137
	[Education=2.00]	0[a]	.	.	0	.	.	.
	[Gender=1.00]	-.147	.358	.168	1	.681	-.850	.555
	[Gender=2.00]	0[a]	.	.	0	.	.	.

∗Indicates significance level at 0.05.

∗∗ Indicates significance level at 0.10

(-) Estimates show that the variables are inversely related.

(+) Estimates show that the variables are directly related.

The Parameter estimates table (**Table 5**) is the most important table regarding the relationship between our independent variables and the dependent variable. The 'threshold' coefficients are just representing the intercepts, (i.e. when the model does not contain any independent variable), while the 'Location' coefficients are representing the fitted model coefficients (i.e. model having independent variables).

From the observed significance levels in table 5, it can be concluded that Age and Profession (=2 i.e. Non-Government Servants) are significant at 0.10 level of significance. The coefficient of Age, Monthly income, Education and Gender are negative, which indicates that higher values of these variables are associated with lower values of dependent variable (i.e. inverse relationship exists between the variables).Moreover, the coefficients of Area and Profession are positive, which indicates that higher values of the these variables are associated with higher values of dependent variable (i.e. direct relationship exist between dependent and independent variables).
For example, the coefficient for Age is -0.014, which is an indication of the decrease in the values of dependent variable 0.014 with a unit increase in Age. Similarly, the coefficient for Gender (Male) is –0.147. Here, Gender is a categorical variable having two categories (i.e. Male and Female), so the reference category is Female, and its coefficient is 0. The negative coefficient of Gender means it's associated with lowest categories of Local Development perception. The rest of the independent variables can be interpreted similarly.

Statistical Analysis with regard to assuring of Provision of Employment

After fitting the ordinal logistic model to dependent variable of "assuring of provision of employment", the following five tables obtained through SPSS which are tabulated as:

Table 6: VIF and Tolerance rates

		Collinearity Statistics	
		Tolerance	VIF
	Area	.968	1.034
	Gender	.871	1.148
	Age	.917	1.091
	Profession	.768	1.302
	MIncome	.854	1.170
	Education	.794	1.260

Table 6 gives the results of VIF and Tolerance rates which show that all the VIF are lying between 1 and 10 as well as Tolerance rates are lying between 0 and 1, so there is no multicollinearity problem. Thus assumption # 3 is satisfied.

Table 7: Test of Parallel Lines

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	631.531			
General	619.693[b]	12.837	18	.060

Table 7 shows the "test of parallel lines" which has two rows: one row with heading "Null hypothesis" and the other with heading "General". The p-value (i.e. Sig >0.060) indicates that the fourth assumption of proportional odds is satisfied. So, we can proceed to apply the ordinal logistic regression.

After satisfying all the four assumptions, an ordinal regression model is fitted on the data by using SPSS package which gives the following tables.

Table 8: Model Fitting Information

Model	**-2 Log Likelihood**	**Chi-Square**	**Df**	**Sig.**
Intercept Only	661.891			
Final	631.531	30.361	9	.000

Before examining the individual effect of each independent variable, an overall effect of the fitted model is tested. For this purpose, two models are being compared: one contains the "Intercept Only" (i.e. when the model does not contain any independent variable), while the other contains the "Final" (i.e. containing all the independent variables). The two models are compared using chi-square statistic and the results are mentioned in table 8. It is evident that the significance value is less than 0.05, so it can be concluded that the Final model gives a significant improvement over the baseline intercept-only model. In other words, our fitted model gives better predictions than if we ignore the independent variables.

Table 9: Goodness-of-Fit

	Chi-Square	**Df**	**Sig.**
Pearson	896.454	858	.176
Deviance	628.758	858	1.000

Table 9 contains the Goodness-of-Fit values which indicate that the significance level of the two statistics are greater than 0.05, so it can be concluded that the observed data are consistent with the fitted model.

Table 10: Parameter Estimates

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[Unemployment = 1.00]	1.435	.344	17.438	1	.000	.761	2.108
	[Unemployment = 2.00]	2.712	.358	57.533	1	.000	2.011	3.413
	[Unemployment = 3.00]	3.200	.366	76.548	1	.000	2.483	3.917
Location	Age	.008	.006	1.406	1	.236	-.005	.020
	Mincome	2.257E-5	1.327E-5	2.894	1	**.089	-3.435E-6	4.858E-5
	[Area=1.00]	.809	.168	23.148	1	*.000	.479	1.138
	[Area=2.00]	0[a]	.	.	0	.	.	.
	[Profession=1.00]	.664	.402	2.725	1	**.099	-.124	1.452
	[Profession=2.00]	.818	.395	4.291	1	*.038	.044	1.591
	[Profession=3.00]	.529	.450	1.378	1	.240	-.354	1.411
	[Profession=4.00]	-.115	.434	.071	1	.791	-.965	.735
	[Profession=5.00]	0[a]	.	.	0	.	.	.
	[Education=1.00]	.104	.200	.271	1	.603	-.288	.496
	[Education=2.00]	0[a]	.	.	0	.	.	.
	[Gender=1.00]	-.497	.359	1.918	1	.166	-1.200	.206
	[Gender=2.00]	0[a]	.	.	0	.	.	.

* Indicates significance level at 0.05.

The Parameter estimates table (**Table 10**) is the most important table regarding the relationship between our independent variables and the dependent variable. The 'threshold' coefficients are just representing the intercepts, (i.e. when the model does not contain any independent variable), while the 'Location' coefficients are representing the fitted model coefficients (i.e. model having independent variables).

From the observed significance levels in table 10, it can be concluded that Monthly Income, Area (=1 i.e. Urban) and profession (=1 & =2 i.e. Government Servants & Non-government Servants) are significant at 0.10 level of significance. The coefficient of Profession (=4 i.e. Others) and Gender are negative, which indicates that higher values of these variables are associated with lower values of dependent variable (i.e. inverse relationship exists between the variables). Moreover, the coefficients of Area, Age, Profession and Education are positive, which indicates that higher values of the these variables are associated with higher values of dependent variable (i.e. direct relationship exist between dependent and independent variables).

For example, the coefficient for Age is 0.008, which is an indication of the increase in the values of dependent variable 0.008 with a unit decrease in Age. Similarly, the coefficient for Gender (Male) is –0.479. Here, Gender is a categorical variable having two categories (i.e. Male and Female), so the reference category is Female, and its coefficient is 0. The negative coefficient of Gender means it's associated with lowest categories of unemployment perception. The rest of the independent variables can be interpreted in same way.

Statistical Analysis with regard to candidate's participation in sorrowful and joyful events

After fitting the ordinal logistic model to dependent variable of "candidate's participation in sorrowful and joyful events", the following five tables obtained through SPSS which are tabulated as:

Table 11: VIF and Tolerance rates

		Collinearity Statistics	
		Tolerance	**VIF**
	Area	.968	1.034
	Gender	.871	1.148
	Age	.917	1.091
	Profession	.768	1.302
	MIncome	.854	1.170
	Education	.794	1.260

Table 11 gives the results of VIF and Tolerance rates which show that all the VIF are lying between 1 and 10 as well as Tolerance rates are lying between 0 and 1, so there is no multicollinearity problem. Thus assumption # 3 is satisfied.

Table 12: Test of Parallel Lines

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Null Hypothesis	715.392			
General	705.697b	9.695	18	.072

Table 12 shows the "test of parallel lines" which has two rows: one row with heading "Null hypothesis" and the other with heading "General". The p-value (i.e. Sig >0.072) indicates that the fourth assumption of proportional odds is satisfied. So, we can proceed to apply the ordinal logistic regression.

After satisfying all the four assumptions, an ordinal regression model is fitted on the data by using SPSS package which gives the following tables.

Table 13: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	758.435			
Final	715.392	43.043	9	.000

Before examining the individual effect of each independent variable, an overall effect of the fitted model is tested. For this purpose, two models are being compared: one contains the "Intercept Only" (i.e. when the model does not contain any independent variable), while the other contains the "Final" (i.e. containing all the independent variables). The two models are compared using chi-square statistic and the results are mentioned in table 13. It is evident that the significance value is less than 0.05, so it can be concluded that the Final model gives a significant improvement over the baseline intercept-only model. In other words, our fitted model gives better predictions than if we ignore the independent variables.

Table 14: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	890.398	858	.215
Deviance	711.233	858	1.000

Table 14 contains the Goodness-of-Fit values which indicate that the significance level of the two statistics are greater than 0.05, so it can be concluded that the observed data are consistent with the fitted model.

Table 15: Parameter Estimates

							95% Confidence Interval	
		Estimate	Std. Error	Wald	Df	Sig.	Lower Bound	Upper Bound
Threshold	[Sorrowful_Joyful events = 1.00]	-.928	.321	8.359	1	.004	-1.558	-.299
	[Sorrowful _Joyful events = 2.00]	1.263	.323	15.300	1	.000	.630	1.895
	[Sorrowful _Joyful events = 3.00]	2.194	.331	43.831	1	.000	1.545	2.844
Location	Age	-.001	.006	.054	1	.817	-.013	.010
	MIncome	3.947E-6	1.295E-5	.093	1	.760	-2.143E-5	2.932E-5
	[Area=1.00]	.779	.156	24.961	1	∗.000	.474	1.085
	[Area=2.00]	0[a]	.	.	0	.	.	.
	[Profession=1.00]	.332	.397	.697	1	.404	-.447	1.110
	[Profession=2.00]	1.142	.390	8.569	1	∗.003	.377	1.906
	[Profession=3.00]	.531	.440	1.456	1	.228	-.331	1.393
	[Profession=4.00]	-.118	.416	.080	1	.777	-.933	.697
	[Profession=5.00]	0[a]	.	.	0	.	.	.
	[Education=1.00]	-.346	.184	3.558	1	∗.059	-.706	.014
	[Education=2.00]	0[a]	.	.	0	.	.	.
	[Gender=1.00]	.330	.357	.858	1	.354	-.369	1.029
	[Gender=2.00]	0[a]	.	.	0	.	.	.

∗ Indicates significance level at 0.05.

Table 15: Parameter Estimates

							95% Confidence Interval	
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Threshold	[Sorrowful_Joyful events = 1.00]	-.928	.321	8.359	1	.004	-1.558	-.299
	[Sorrowful _Joyful events = 2.00]	1.263	.323	15.300	1	.000	.630	1.895
	[Sorrowful _Joyful events = 3.00]	2.194	.331	43.831	1	.000	1.545	2.844
Location	Age	-.001	.006	.054	1	.817	-.013	.010
	MIncome	3.947E-6	1.295E-5	.093	1	.760	-2.143E-5	2.932E-5
	[Area=1.00]	.779	.156	24.961	1	∗.000	.474	1.085
	[Area=2.00]	0[a]	.	.	0	.	.	.
	[Profession=1.00]	.332	.397	.697	1	.404	-.447	1.110
	[Profession=2.00]	1.142	.390	8.569	1	∗.003	.377	1.906
	[Profession=3.00]	.531	.440	1.456	1	.228	-.331	1.393
	[Profession=4.00]	-.118	.416	.080	1	.777	-.933	.697
	[Profession=5.00]	0[a]	.	.	0	.	.	.
	[Education=1.00]	-.346	.184	3.558	1	∗.059	-.706	.014
	[Education=2.00]	0[a]	.	.	0	.	.	.
	[Gender=1.00]	.330	.357	.858	1	.354	-.369	1.029
	[Gender=2.00]	0[a]	.	.	0	.	.	.

∗ Indicates significance level at 0.05.

(-) Negative Estimates show that the variables are inversely related.

(+) Positive Estimates show that the variables are directly related.

The Parameter estimates table (**Table 15**) is the most important table regarding the relationship between our independent variables and the dependent variable. The 'threshold' coefficients are just representing the intercepts, (i.e. when the model does not contain any independent variable), while the 'Location' coefficients are representing the fitted model coefficients (i.e. model having independent variables).

From the observed significance levels in table 15, it can be concluded that Area (=1 i.e. Urban), profession (=2 i.e. Non-government Servants) and Education (=1 i.e. literate) are significant at 0.10 level of significance. The coefficient of Age, Profession (=4 i.e. Others) and Education (1= literate) are negative, which indicates that higher values of these variables are associated with lower values of dependent variable (i.e. inverse relationship exists between the variables). Moreover, the coefficients of Area, Profession and Gender are positive, which indicates that higher values of the these variables are associated with higher values of dependent variable (i.e. direct relationship exist between dependent and independent variables).

For example, the coefficient for Area is 0.779, which is an indication of the increase in the values of dependent variable 0.779 with a unit decrease in Area. Similarly, the coefficient for Education (literate) is -0.346. Here, Education is a categorical variable having two categories (i.e. Literate and Illiterate), so the reference category is Illiterate, and its coefficient is 0. The negative coefficient of Education means it's associated with lowest categories of participation in sorrowful and joyful events perception. The rest of the independent variables can be interpreted in same way.

Conclusion

The determinant of clientelism has been determined in light of certain indicators including "local development", "unemployment" and "participation in sorrowful and joyful activities" which constitute dependent variables of the study. Area, Age, Gender, Profession, Monthly Income and Education have been taken as independent variables. The statistical analysis has been made via ordinal logistic regression model.

The analysis supports the argument of the study that patron-client relationship is one of the fore most determinants of voting behaviour in KP. Referring to its first indicator of "local development", it has been inferred that Age, Monthly income, Education and Gender are negatively while Area and Profession are positively associated with "local development". Referring to its second indicator of "unemployment", it has been examined that Profession and Gender are negatively while Area, Age and Education are positively associated with "unemployment". Similarly, referring to its third indicator of "participation in sorrowful and joyful activities", it has been investigated that Age, Profession and Education are negatively while Area and Gender are positively associated with "participation in sorrowful and joyful activities".

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