

Chapter 3

Results

In this chapter we describe the results of data analysis based on the following studied components.

3.1 Demographic Trends Affecting Education Completion in Pattani and Songkhla Provinces.

3.1.1 Demographic factors in education completion.

3.1.2 Trends in secondary education completion.

3.2 Demographic Factors Affecting Employment in Pattani and Songkhla Provinces of Thailand

3.1 Demographic Trends Affecting Education Completion in Pattani and Songkhla Provinces

3.1.1 Demographic factors in education completion.

3.1.1.1 Preliminary analysis

The percentage analysis of education completion people in each level of Pattani and Songkhla Provinces by age groups are shown in Table 3.1.

Age group	None		Elementary		Secondary		High	
	PN	SK	PN	SK	PN	SK	PN	SK
20..24	4.3	1.3	50.4	31.4	26.6	30.0	18.7	37.2
25..29	5.7	1.8	58.3	45.3	23.1	27.3	12.9	25.5
30..34	9.1	2.7	59.8	51.2	19.0	23.9	12.1	22.2
35..39	11.2	3.6	61.9	54.7	12.9	18.2	14.0	23.4
40..44	17.1	5.2	58.4	60.8	10.5	14.8	14.1	19.2
45..49	25.6	7.1	58.5	69.3	6.7	10.0	9.3	13.5
50..54	36.2	10.1	51.8	71.7	5.4	9.2	6.6	9.0
55..59	47.6	14.5	43.1	71.2	4.5	7.7	4.8	6.6
60..64	61.4	22.5	34.5	69.8	2.1	4.2	2.0	3.5
64+	68.8	38.7	28.2	55.2	2.0	3.6	1.0	2.5
Total	23.5	9.0	51.9	54.3	13.7	17.4	10.9	19.2

Table 3.1: Cross tabulation of percentages at each education completion level, by age group for Pattani (PN) and Songkhla (SK) Provinces.

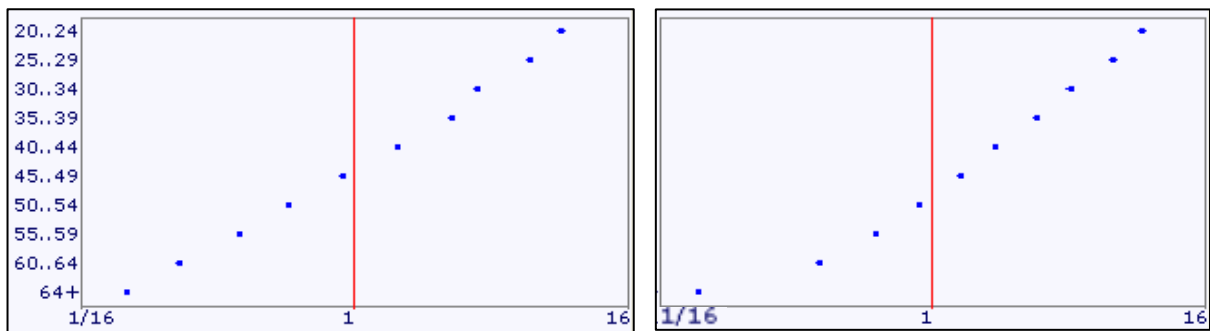
The analysis from Table 3.1 showed that people in Pattani and Songkhla had differences in the education completion pattern, especially for ‘none’ and ‘high’ education completion groups. In Pattani, 23.5% were in the ‘none’ education level category while in Songkhla there were only 9.0 %. For ‘high’ education completion, people in Songkhla had a higher completion rate than those in Pattani, about 2 times, with 19.2% in Songkhla and only 10.9% in Pattani. In elementary and secondary education completion, there was little difference between the provinces. The analysis of observed percentage and Odds Ratio for the association between education completion and age groups was revealed in Table 3.2, and Figure 3.1 demonstrated the Odds Ratio Plot for comparisons between ‘completed elementary and more’ versus ‘no’ education, ‘completion in secondary and more’ versus ‘elementary or less’ and ‘completed high level’ versus ‘secondary or less’.

Age	PN		SK		PN		SK		PN		SK	
group	% no	%elem+	% no	%elem+	%<=elem	%sec+	%<=elem	%sec+	%<=sec	%high	%<=sec	%high
20..24	4.3	95.7	1.3	98.7	54.7	45.3	32.7	67.3	81.3	18.7	62.8	37.2
25..29	5.7	94.3	1.8	98.2	64.0	36.0	47.1	52.9	87.1	12.9	74.5	25.5
30..34	9.1	90.9	2.7	97.3	68.9	31.1	53.9	46.1	87.9	12.1	77.8	22.2
35..39	11.2	88.8	3.6	96.4	73.1	26.9	58.4	41.6	86.0	14.0	76.6	23.4
40..44	17.1	82.9	5.2	94.8	75.4	24.6	66.0	34.0	85.9	14.1	80.9	19.2
45..49	25.6	74.4	7.1	92.9	84.0	16.0	76.5	23.5	90.7	9.3	86.5	13.5
50..54	36.2	63.8	10.1	89.9	88.0	12.0	81.8	18.2	93.4	6.7	91.0	9.0
55..59	47.6	52.4	14.5	85.5	90.7	9.3	85.7	14.3	95.2	4.8	93.4	6.6
60..64	61.4	38.6	22.5	77.6	95.9	4.1	92.3	7.7	98.0	2.0	96.5	3.5
64+	68.8	31.2	38.7	61.3	97.0	3.0	93.9	6.1	99.0	1.0	97.5	2.5
total	23.5	76.5	9.0	91.0	75.4	24.6	63.4	36.6	89.1	10.9	80.8	19.2

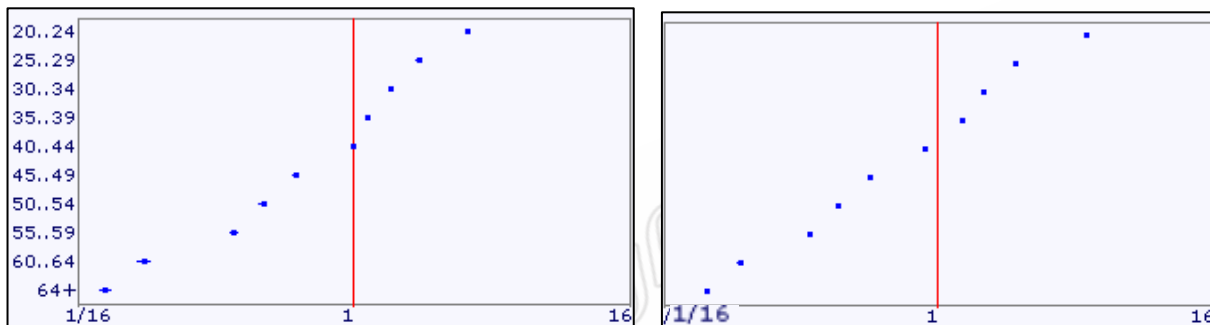
Table3.2 : Shows observed percentages for Education Completion at each level by Age Group in Pattani (PN) and Songkhla (SK).

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Completed Elementary vs No Education



Completed Secondary vs Elementary or Less



Completed Higher Level vs Secondary or Less

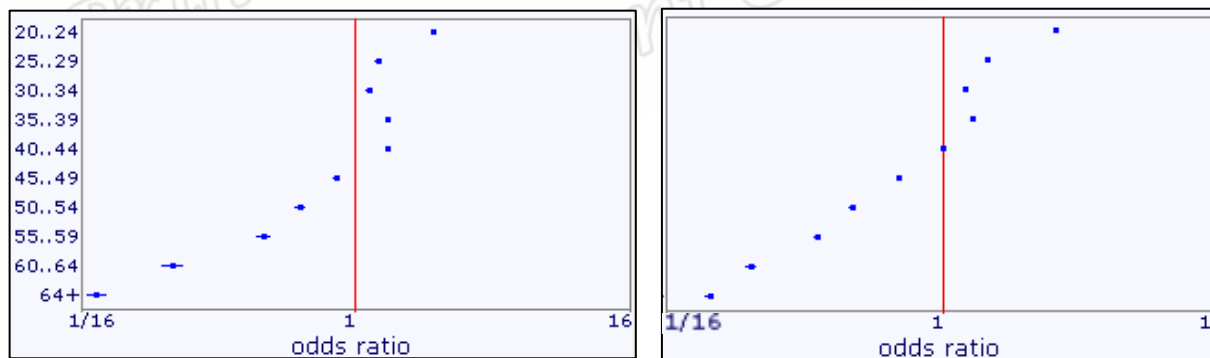


Figure 3.1: Odds ratios for Education Completion at each level by age group in Pattani (left panels) and Songkhla (right panels)

From Table 3.2, it was found that the association between education completion and age group was clear in both provinces. The trend, similar in both provinces, was that younger age groups will have completed more education than older age groups. In relation to the 'no education completed' group, the proportions of people in this category were higher in Pattani

than in Songkhla, for all age groups. For the group of age 64+, the Pattani uneducated percentage was 68.8% while it was 38.7% in Songkhla. For all age groups, the percentage with 'high education completed' was more in Songkhla than in Pattani. The group aged 20 to 24 years old had the highest percentage of completed education: 37.2% in Songkhla and 18.7% in Pattani. The age group that had the lowest percentage of 'high education' in both provinces was 64+; that represented 2.5% in Songkhla while 1.0% in Pattani. From Figure 3.1, it was found that the proportion of 'completed elementary' and 'no education' was higher for the younger and lower for the older age groups, in both provinces. The highest proportion was for age group 20..24, (OR=8.11 in Pattani and OR=8.46 in Songkhla) while the lowest was 64+, (OR=0.01 in Pattani and OR=0.09 in Songkhla). The proportion of 'high education' and 'secondary or less' in both provinces was almost the same, except for the age group 40..44 that the number in Pattani was higher than Songkhla. The analysis of observed percentage and Odds Ratio for the association between educational completed, gender and religion revealed in Table 3.3, and Figure 3.2 demonstrated Odds Ratio Plot

Sex Religion	PN		SK		PN		SK		PN		SK	
	%no	%elem+	%no	%elem+	%<=elem	%sec+	%<=elem	%sec+	%<=sec	%high	%<=sec	%high
Male Other	4.1	95.9	4.5	95.5	47.8	52.2	55.5	44.5	71.7	28.3	78.0	22.0
Female Other	9.2	90.8	10.1	89.9	56.9	43.1	63.8	36.2	71.9	28.1	77.8	22.2
Male Islam	23.1	76.9	12.1	87.9	80.3	19.7	74.7	25.3	94.1	5.9	92.2	7.8
Female Islam	33.7	66.3	18.1	81.9	84.2	15.8	79.5	20.5	94.7	5.3	92.1	7.9
total	23.5	76.5	9.0	91.0	75.4	24.6	63.4	36.6	89.1	10.9	80.8	19.2

Table 3.3: Shows observed percentage for Education Completion at each level by gender and religion in Pattani (PN) and Songkhla (SK).

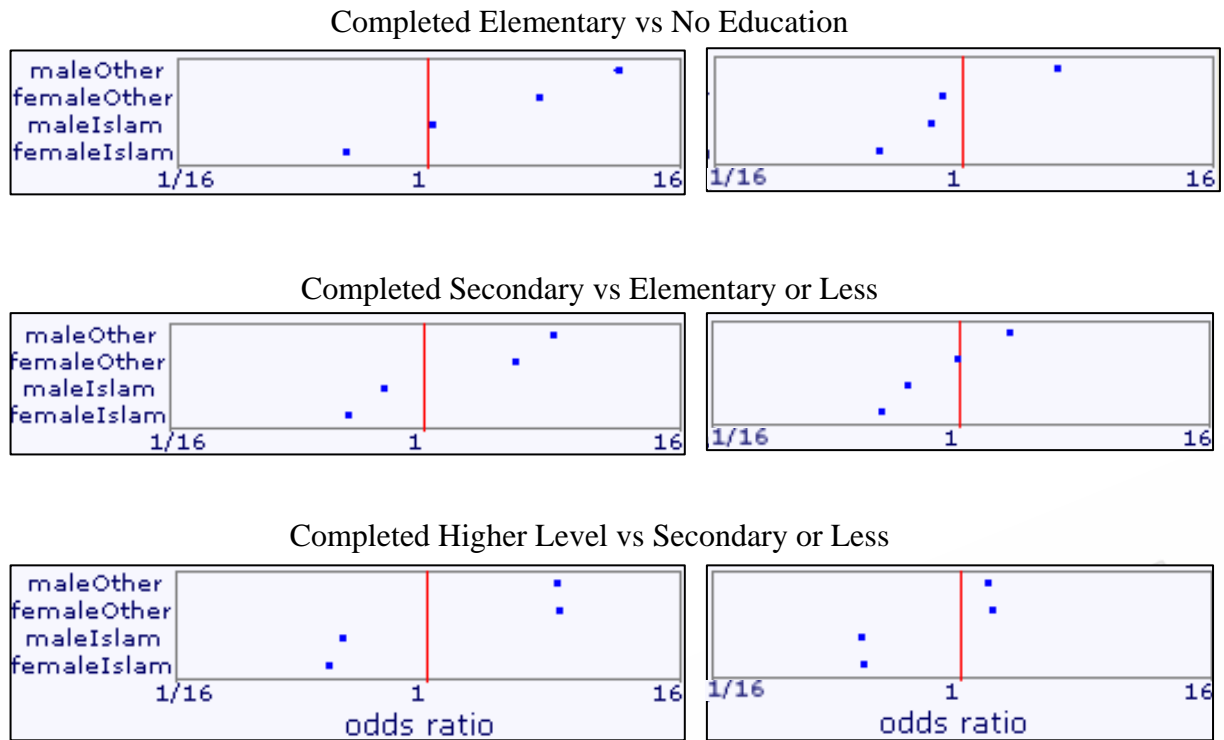


Figure 3.2: Odds ratios for Education Completion at each level by gender and religion groups in Pattani (left panels) and Songkhla (right panels)

From Table 3.3 and Figure 3.2, it was found that there were statistically significant differences, at 0.05 level, for education completion within each of gender and religion variables. There was a similar trend in completion of elementary and secondary education in both provinces. The ‘male other’ (male, non-Muslim) group had the highest proportion in elementary education completed (OR=8.15 in Pattani and OR=2.83 in Songkhla), follow by female other, male Muslim and then female Muslim categories. For people who completed ‘high education’ it was found that ‘female other’ had higher rates than any other group, in both provinces, while the lowest proportion was among female Muslims in Pattani and male Muslims in Songkhla.

The proportion of education completion in each district by taking Odds Ratio into consideration shows in Figure 3.3.

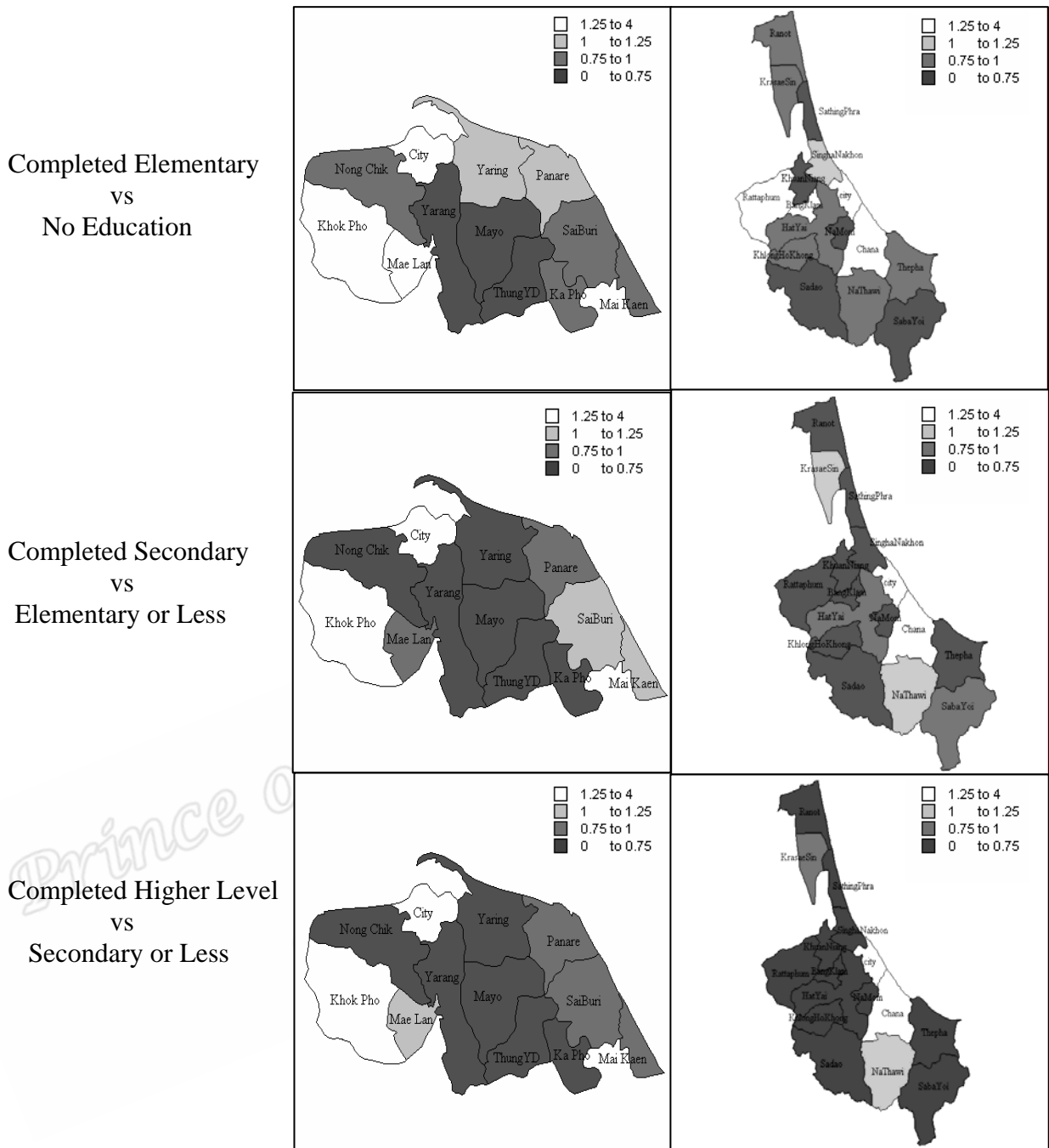


Figure 3.3: Odds ratios for Education Completion at each level, by districts in Pattani (left panels) and in Songkhla (right panels).

From Figure 3.3, it was found that, the areas where people had been well educated in Pattani were in City and Khok Pho districts while people in Yarang , Mayor and Thung Yang Deang districts had completed less education. For Songkhla, it was also found that the areas where people had been well educated were in City and Chana districts, while the more rural areas

such as Sadao, NaMom SathingPhra, SabaYoi and KuanNiang had lower levels of education completion.

3.1.1.2 Logistic regression modeling analysis

The results after fitting a logistic regression model show the association between demographic factors and the education completed, in Table3.4 (Pattani) and Table3.5 (Songkhla).

Factor	Coefficient	St.Error	P-value
Education completion			
Elementary+/none	2.6791	0.0715	
Secondary+/elementary-	1.1521	0.0705	
High/secondary-	-0.0945	0.0703	
sex religion			0.0000
Male Other	0.0000	-	
Female Other	-0.1802	0.0266	0.0000
Male Islam	-0.6406	0.0248	0.0000
Female Islam	-0.8730	0.0254	0.0000
Age group			0.0000
20-24	0.0000	-	
25-29	-0.1067	0.0322	0.0009
30-34	-0.3482	0.0341	0.0000
35-39	-0.5398	0.0351	0.0000
40-44	-0.5606	0.0362	0.0000
45-49	-0.8450	0.0374	0.0000
50-54	-1.0836	0.0379	0.0000
55-59	-1.1994	0.0391	0.0000
60-64	-1.6541	0.0410	0.0000
64+	-1.4959	0.0378	0.0000
District			0.0000
City	0.0000	-	
KhokPho	-0.0863	0.0803	0.2824
NongChick	-0.1107	0.0766	0.1486
Panare	-0.1294	0.0742	0.0812
Mayo	-0.1809	0.0736	0.0139
ThungYangDeang	-0.3139	0.0744	0.0000
SaiBuri	-0.0376	0.0700	0.5909
MaiKaen	-0.3354	0.0709	0.0000
Yaring	-0.0656	0.0693	0.3440
Yarang	-0.0114	0.0684	0.8682
KaPho	-0.1717	0.0708	0.0153
MaeLan	-0.3675	0.0690	0.0000

Table 3.4: The results from fitting logistic regression model in Pattani.

Factors	Coefficient	St.Error	P-value
Education completion			
Elementary+/none	2.2653	0.0664	
Secondary+/elementary-	0.9123	0.0660	
High/secondary-	-0.3181	0.0659	
sex religion			
Male Other	0	-	0.0000
Female Other	-0.1066	0.0158	0.0000
Male Islam	-0.3252	0.0181	0.0000
Female Islam	-0.5010	0.0183	0.0000
Age group			
20-24	0	-	0.0000
25-29	-0.1155	0.0228	0.0000
30-34	-0.3306	0.0245	0.0000
35-39	-0.5453	0.0254	0.0000
40-44	-0.6002	0.0258	0.0000
45-49	-0.7789	0.0264	0.0000
50-54	-0.9818	0.0269	0.0000
55-59	-1.0547	0.0274	0.0000
60-64	-1.2692	0.0279	0.0000
64+	-1.0814	0.0261	0.0000
District			
City	0	-	0.0000
SathingPhra	-0.1677	0.0820	0.0407
Chana	-0.1095	0.0738	0.1382
Nathawi	-0.1783	0.0720	0.0133
Thepha	-0.2037	0.0700	0.0036
SabaYoi	-0.2510	0.0689	0.0003
Ranot	-0.1617	0.0693	0.0196
KrasaeSin	-0.1976	0.0722	0.0062
Rattaphum	-0.1453	0.0673	0.0307
Sadao	-0.1132	0.0665	0.0885
HatYai	0.0016	0.0660	0.9812
NaMom	-0.1340	0.0684	0.0499
KuanNiang	-0.2373	0.0670	0.0004
BangKlam	-0.2542	0.0661	0.0001
SinghaNakhon	-0.2412	0.0656	0.0002
KhlongHoiKhong	-0.1969	0.0668	0.0032

Table 3.5: The results from fitting logistic regression model in Songkhla.

The logistic regression model indicates that gender, religion, age groups and districts were strongly associated with the education completed. For gender and religion it was found that female Muslims had the lowest probability of education being completed, followed by male Muslims, female other and male other. In age groups, the younger age groups have higher probability of completing education than the older groups. For districts, in Pattani, the areas of City, KhokPho, NongChick, Panare, SaiBuri, Yaring, and Yarang have the higher probability in education completion, more than the areas of Mayo, ThungYangDeang,

MaiKaen, KaPho and MaeLan. In Songkhla, the areas of City, Chana, Rattaphum, Sadao, HatYai, and NaMom have the higher probability in education completion, more than the areas of SathingPhra, NaThawi, Thepha, SabaYoi, Ranot, KrasaeSin, KuanNiang, BangKlam, SinghaNakhon and KhlongHoiKhong.

3.1.2 Trends in secondary education completion.

3.1.2.1 Preliminary analysis

Figures 3.4 and 3.5 were the graphs of the analysis of secondary education completion rate for over 20 years old people in Pattani and Songkhla Provinces when data for gender and religion groups are used.

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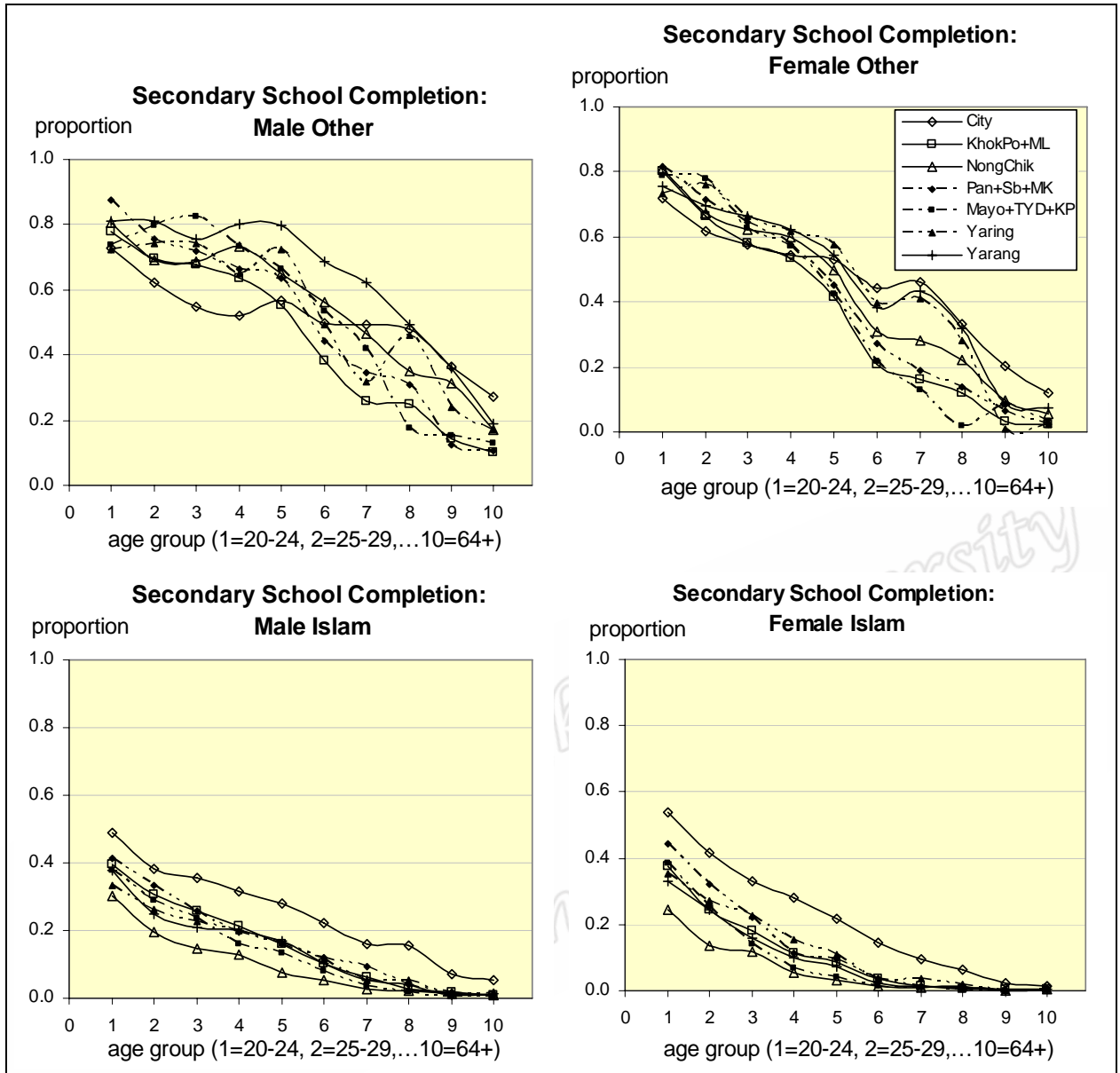


Figure 3.4: Secondary school completion rates versus age by district, gender and religion in Pattani.

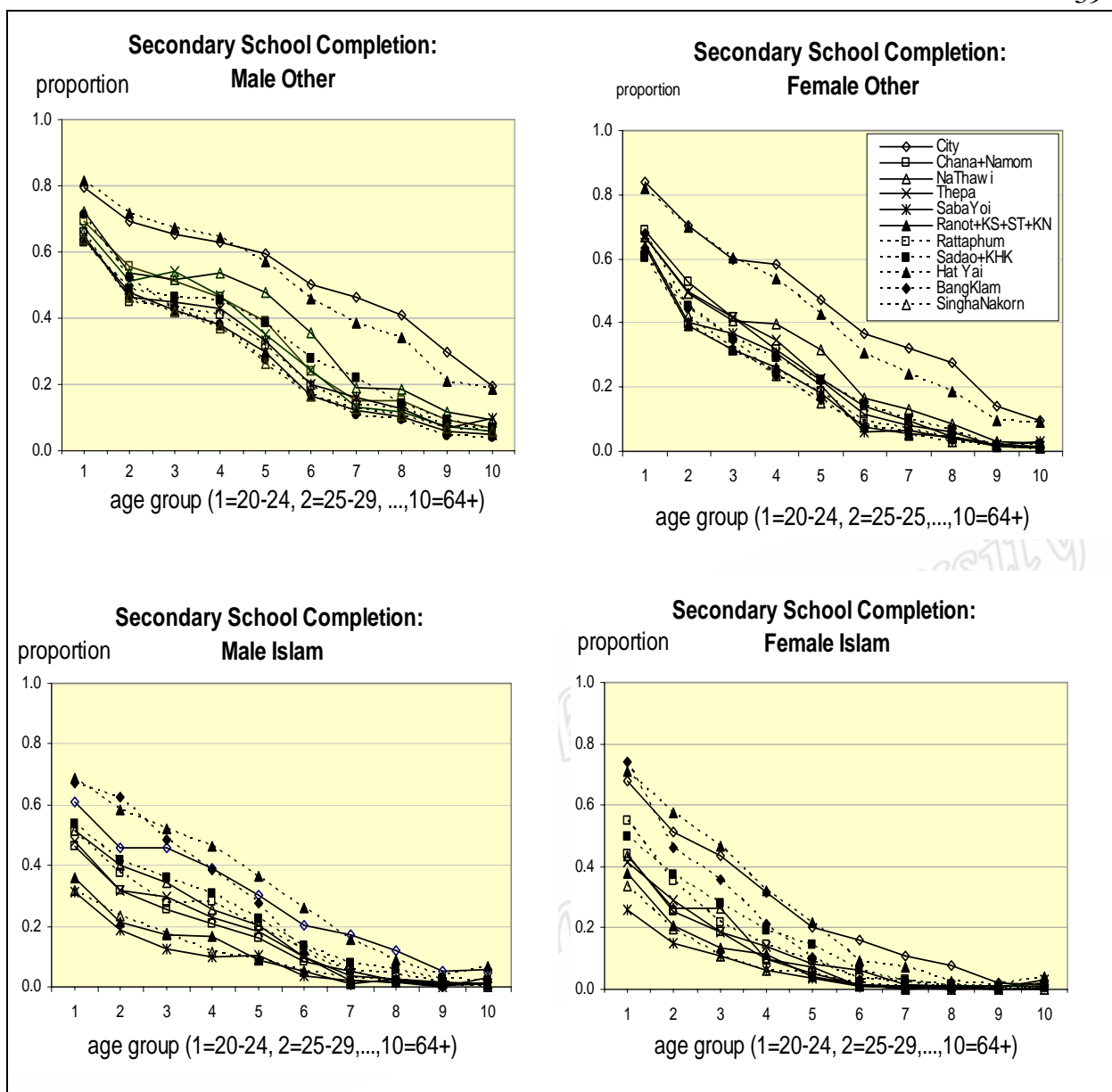


Figure 3.5: Secondary school completion rates versus age by district, gender and religion in Songkhla.

Figures 3.4 and 3.5 show the plots of the rates of secondary school completion. For Pattani, these rates increased for each combination of gender and religion. The rates had a similar increasing pattern for males and females, in the non-Islamic groups from 0.1 to 0.8, and from nearly zero to 0.5 for male and female Islamic groups. In Pattani city, the completion rates for Muslim residents were higher than in other districts. For Songkhla, the rates had a similar

increasing pattern from 0.1 to 0.7 for male and female non-Islamic groups, except in City and HatYai Districts, where they increased to 0.8. For male and female Islamic groups the rates increased from nearly zero to 0.5 but in Songkhla city, Bangklam and HatYai the completion rates for Muslim residents were higher than in other districts.

3.1.2.2 Logistic regression model

Table 3.6 and 3.7 shows the results of fitting the logistic model given by Equation (2.21) separately for each gender-religion combination. The bottom line shows the residual deviance from the saturated model based on the 70 cells for Pattani and 110 cells for Songkhla corresponding to combinations of district and age group for each gender-religion group.

Factor	Male Other		Female Other		Male Islam		Female Islam	
	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
Constant terms	0.8885	0.0637	0.8092	0.0592	0.0127	0.0502	0.3592	0.0526
City	0	-	0	-	0	-	0	-
KhokPo+ML	0.5136	0.1025	0.6865	0.1018	-0.3312	0.0933	-0.4516	0.1000
NongChik	0.3006	0.1559	0.6457	0.1702	-0.4869	0.0821	-0.9246	0.0976
Panare+Sb+MK	0.9861	0.1336	0.8419	0.1256	-0.1680	0.0707	-0.1106	0.0769
Mayo+TYD+KP	0.5548	0.3300	1.1285	0.3422	-0.3379	0.0781	-0.1257	0.0859
Yaring	0.0798	0.2268	-0.0528	0.2592	-0.6679	0.0770	-0.7632	0.0828
Yarang	0.2690	0.2048	0.2090	0.2316	-0.4219	0.0754	-0.6619	0.0870
Linear terms	-0.1612	0.0279	-0.0651	0.0271	-0.1492	0.0261	-0.2723	0.0295
City	0	-	0	-	0	-	0	-
KhokPo+ML	-0.0044	0.0437	-0.2055	0.0461	0.0114	0.0524	-0.1691	0.0627
NongChik	0.1781	0.0663	-0.1481	0.0736	-0.2531	0.0485	-0.3154	0.0633
Panare+Sb+MK	-0.0583	0.0544	-0.1808	0.0549	-0.0717	0.0384	-0.1797	0.0476
Mayo+TYD+KP	0.2204	0.1404	-0.3136	0.1536	-0.0397	0.0446	-0.4069	0.0568
Yaring	0.2668	0.0971	0.2850	0.1128	0.0663	0.0421	0.0855	0.0503
Yarang	0.4229	0.0862	0.0724	0.0977	-0.0454	0.0417	-0.0971	0.0552
Quadratic terms	0.0006	0.0026	-0.0181	0.0027	-0.0121	0.0027	-0.0159	0.0034
City	0	-	0	-	0	-	0	-
KhokPo+ML	-0.0209	0.0040	-0.0076	0.0046	-0.0179	0.0061	0.0027	0.0081
NongChik	-0.0293	0.0061	-0.0023	0.0070	0.0108	0.0056	0.0211	0.0080
Panare+Sb+MK	-0.0190	0.0049	-0.0097	0.0053	-0.0063	0.0042	-0.0045	0.0062
Mayo+TYD+KP	-0.0441	0.0126	-0.0009	0.0150	-0.0193	0.0053	0.0126	0.0078
Yaring	-0.0371	0.0087	-0.0448	0.0107	-0.0157	0.0047	-0.0204	0.0064
Yarang	-0.0520	0.0079	-0.0166	0.0091	-0.0078	0.0046	-0.0099	0.0073
Deviance (df)	45513 (119)		45128 (119)		110523 (119)		93335 (115)	
Residual Deviance (df)	249.3 (49)		237.1 (49)		260.1 (49)		207.6 (49)	

Table 3.6: Logistic model results of Pattani.

Factor	Male Other		Female Other		Male Islam		Female Islam	
	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
Constant terms	1.3190	0.0355	1.7558	0.0364	0.5877	0.0848	1.1087	0.0989
City	0	-	0	-	0	-	0	-
Chana+Namom	-0.3225	0.0673	-0.5781	0.0715	-0.5068	0.1049	-0.7487	0.1228
NaThawi	-0.4955	0.0747	-0.9847	0.0777	-0.4003	0.1574	-1.1033	0.1917
Thepa	-0.4647	0.0905	-0.8326	0.0962	-0.5714	0.1180	-0.9433	0.1306
SabaYoi	-0.5351	0.0976	-0.7976	0.1032	-0.8693	0.1273	-1.3195	0.1395
Ranot+KS+ST+KN	-0.4905	0.0483	-0.8855	0.0511	-0.8393	0.1956	-0.7673	0.1977
Rattaphum	-0.5092	0.0688	-1.0422	0.0730	-0.4207	0.1421	-0.2482	0.1567
Sadao+KHK	-0.8211	0.0550	-1.0544	0.0576	-0.2643	0.1127	-0.7117	0.1284
Hat Yai	0.2761	0.0439	0.0882	0.0440	0.4121	0.1083	0.4274	0.1214
BangKlam	-0.1076	0.1113	-0.4821	0.1142	0.3948	0.1820	0.6588	0.1993
SinghaNakorn	-0.4390	0.0665	-0.7694	0.0705	-1.0636	0.1375	-1.1845	0.1555
Linear terms	-0.1483	0.0152	-0.3765	0.0156	-0.2374	0.0434	-0.4523	0.0524
City	0	-	0	-	0	-	0	-
Chana+Namom	-0.2797	0.0263	-0.4655	0.0315	-0.3101	0.0364	-0.6280	0.0518
NaThawi	-0.1376	0.0299	-0.2667	0.0342	-0.1476	0.0800	-0.2706	0.1229
Thepa	-0.2196	0.0389	-0.3472	0.0453	-0.2041	0.0484	-0.5167	0.0524
SabaYoi	-0.3192	0.0421	-0.5178	0.0500	-0.5819	-0.0550	-0.8346	0.0617
Ranot+KS+ST+KN	-0.3546	0.0159	-0.5117	0.0189	-0.4003	0.1082	-0.8762	0.1081
Rattaphum	-0.3463	0.0289	-0.4477	0.0353	-0.2170	0.0674	-0.7246	0.0784
Sadao+KHK	-0.1221	0.0204	-0.3796	0.0237	-0.2227	0.0417	-0.4135	0.0498
Hat Yai	-0.2454	0.0113	-0.4620	0.0112	-0.2472	0.0353	-0.6143	0.0393
BangKlam	-0.4750	0.0529	-0.6687	0.0595	-0.1760	0.0975	-0.8554	0.1089
SinghaNakorn	-0.4131	0.0277	-0.5735	0.0333	-0.2952	0.0701	-0.6332	0.0900
Quadratic terms	-0.0107	0.0014	-0.0003	0.0015	-0.0112	0.0045	-0.0048	0.0058
City	0	-	0	-	0	-	0	-
Chana+Namom	-0.0088	0.0026	-0.0078	0.0035	-0.0161	0.0044	-0.0072	0.0075
NaThawi	-0.0183	0.0029	-0.0170	0.0037	-0.0427	0.0103	-0.0585	0.0196
Thepa	-0.0166	0.0039	-0.0174	0.0050	-0.0290	0.0060	-0.0008	0.0066
SabaYoi	-0.0007	0.0041	0.0031	0.0055	0.0216	0.0061	0.0441	0.0069
Ranot+KS+ST+KN	-0.0034	0.0016	-0.0018	0.0020	-0.0052	0.0130	0.0402	0.0123
Rattaphum	-0.0002	0.0029	-0.0066	0.0041	-0.0261	0.0082	0.0113	0.0103
Sadao+KHK	-0.0192	0.0021	-0.0069	0.0027	-0.0214	0.0049	-0.0123	0.0064
Hat Yai	-0.0064	0.0011	0.0045	0.0011	-0.0161	0.0039	0.0074	0.0046
BangKlam	0.0028	0.0055	0.0110	0.0067	-0.0494	0.0128	0.0108	0.0146
SinghaNakorn	0.0040	0.0028	0.0025	0.0038	-0.0189	0.0091	-0.0028	0.0133
Deviance(df)	68405.5(109)		102311.4(109)		16798.48(109)		20360.4(109)	
Residual deviance(df)	1145.9(77)		1152.7(77)		288.44(77)		244.2(77)	

Table 3.7: Logistic model results of Songkhla.

From the results of fitting the logistic model we can show the new proportion of secondary school education completion in Figure 3.6 and 3.7.

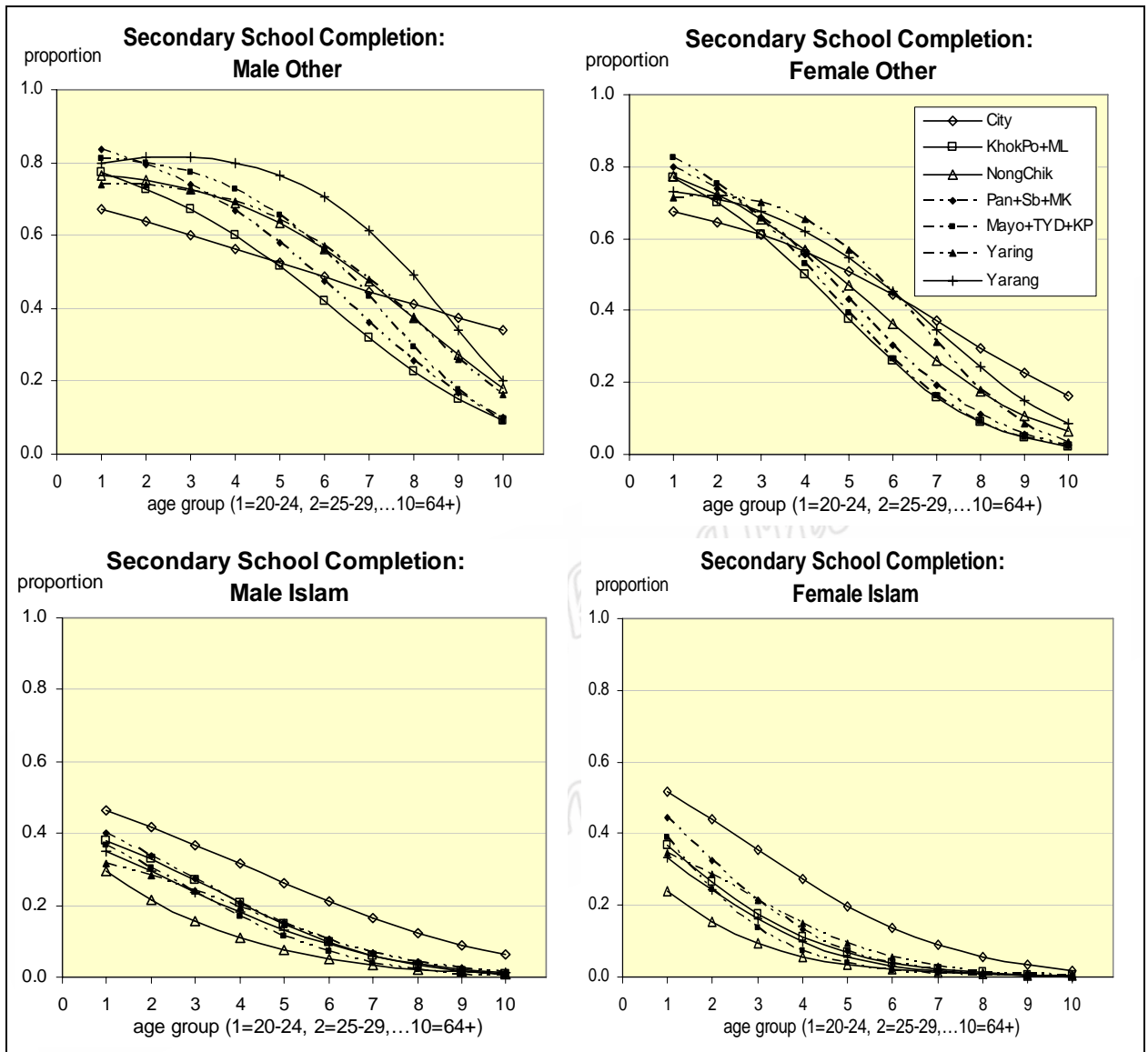


Figure 3.6: Secondary school completion rates versus age by district, gender and religion in Pattani based on the logistic model.

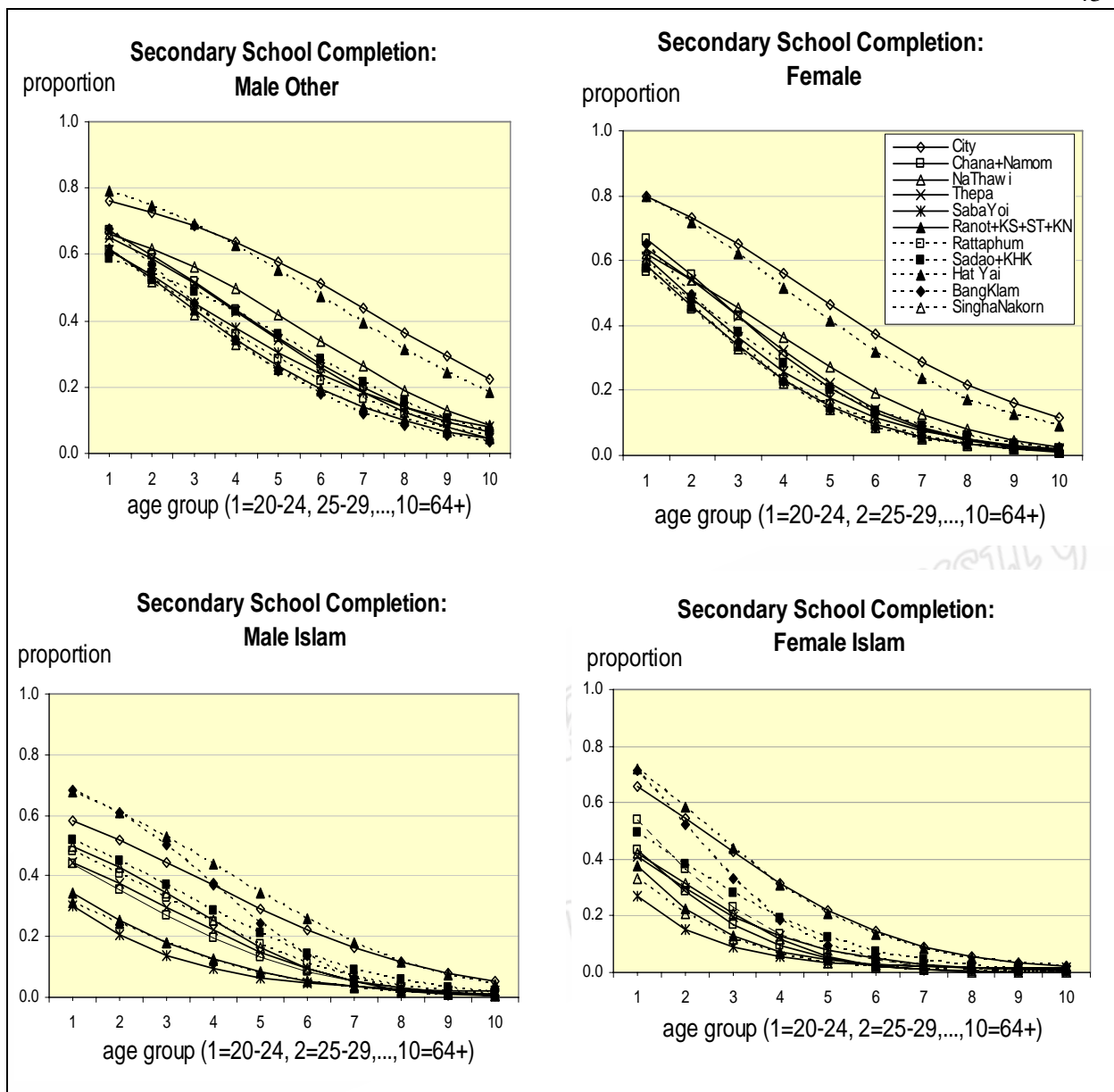


Figure 3.7: Secondary school completion rates versus age by district, gender and religion in Songkhla based on the logistic model.

Figure 3.6 and 3.7 shows the proportions of secondary school education completion plotted against age, based on the logistic model. For Pattani, this has been done for each combination of gender and religion: male non-Islamic, female non-Islamic, male Islamic and female Islamic. In 1960 the proportions of secondary school education completion for Islamic residents were extremely low in all areas outside Pattani city. The graph shows clearly that

the lowest proportion of secondary school education completion was for Islamic residents in NongChik district. In Songkhla, 'male other', 'female other' and 'female Islam' who lived in Songkhla City and Hat Yai District had the highest rates of completion of secondary education. Also, male Muslims who lived in BangKlam and HatYai District had the highest.

3.2 Demographic factors affecting employment in Pattani and Songkhla Provinces of Thailand

3.2.1 Preliminary analysis

The analysis of unemployed percentages in Pattani and Songkhla Provinces by education level, gender and religion are shown in Table 3.8.

Sex Religion	Education Completion	Pattani			Songkhla		
		unem	%unem	pop	unem	%unem	pop
Male Other	none	125	24.46	511	963	18.36	5246
	elem	557	4.90	11367	5699	5.22	109086
	second	431	6.07	7101	3431	6.82	50324
	high	618	7.37	8387	4047	8.55	47306
Female Other	none	332	38.07	872	3086	26.52	11637
	elem	3949	27.70	14257	24068	17.77	135446
	second	1446	30.10	4804	8287	24.54	33767
	high	1319	14.32	9214	8902	17.09	52074
Male Islam	none	1109	7.58	14636	480	10.65	4509
	elem	2989	5.36	55718	1560	4.15	37628
	second	1086	9.35	11613	562	6.01	9349
	high	636	12.89	4933	403	10.64	3789
Female Islam	none	4660	18.92	24625	1298	17.61	7372
	elem	11037	20.73	53243	5607	14.12	39708
	second	2704	31.57	8566	1301	20.57	6326
	high	838	19.46	4307	685	19.00	3606
Total	none	6226	15.32	40644	8527	29.64	28764
	elem	18532	13.77	134585	36934	11.47	321868
	second	5667	17.66	32084	13581	13.61	99766
	high	3411	12.71	26841	14037	13.15	106775

Table 3.8: Shows crude results of employment status percentages, by education level, gender and religion, for combined districts and combined age groups.

From Table 3.8 it is shown that, for unemployment, the ‘no education’ people in Songkhla was the category with the highest level of unemployment (29.6%), while in Pattani it was the ‘secondary education completed’ group(17.6%). It was found that for those with a high level of education, both provinces had approximately the same percentage unemployed (about 13%). When considering gender/religion categories, it was found that for both ‘none’ and ‘high’ education completion groups, among both male and female Muslims, there were only minor unemployment percentage differences across the two provinces. For the ‘other’ (non-Muslim) categories, in both provinces and for both genders, there was clearly highest unemployment for those with no education.

The research studied the influence of demographic factors which consist of sex, religion age group, location and education completion categories, on unemployment patterns in Pattani and Songkhla. The influence of demographic factors is presented in Table 3.9.

Demographic factors	Df		Deviance		Resid. Df		Resid. Dev	
	PN	SK	PN	SK	PN	SK	PN	SK
NULL					768	1210	25235	48302
factor(sexReligion)	3	3	11821.3	19349	765	1207	13413.7	28953
factor(ageGrp)	6	6	2352.3	3767	759	1201	11061.4	25185
factor(distGrp)	6	10	4226.3	11699	753	1191	6835.1	13486
factor(eduComp)	3	3	626.3	1791	750	1188	6208.8	11695

Table 3.9: ANOVA table for Pattani (PN) and Songkhla (SK) Provinces.

Due to the high value of deviance, a different model, Logistic regression, is more meaningful for identifying the detail of factors associated with unemployment rate. A focus on less aggregated (separated demographic characteristic) groups was needed in order to obtain satisfactory fits of the model. Groups were separated by district, gender and religion, giving a total of 28 (7 districts x 4 gender religion) and 44 (11 districts x 4 gender religion) demographic/district subgroups for Pattani and Songkhla Province respectively.

3.2.2 Logistic regression model

In the analysis by logistic regression model, elementary education completion was selected as the referent in education level variable because it was the biggest group. The education level variable did not show clear association between education completion and the unemployment rate in all of district, gender and religion subgroups. Therefore, the education variable was analyzed further by finding an average of coefficient value in order to observe the influence of education level on the unemployment rate. This method is called Meta analysis. The result of the logistic regression model analysis is displayed in Tables 3.10 and 3.11.

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Factors	Coefficient			SE		
	none	second	high	none	second	high
r1d1	1.2769	0.4773	0.6694	0.2464	0.1232	0.1070
r2d1	1.8937	-0.1142	0.6055	0.2144	0.1301	0.1159
r3d1	1.7123	0.1939	0.0959	0.4340	0.2110	0.2191
r4d1	2.5413	0.3241	0.1269	0.2304	0.1544	0.1539
r5d1	1.2828	-2.9388	-1.3928	0.8920	0.7630	0.4701
r6d1	1.0676	-0.5771	-0.5103	0.4446	0.3307	0.2972
r7d1	1.7907	-0.8939	-0.2297	0.6514	0.3621	0.3115
r1d2	0.5695	-0.4718	-1.7865	0.1237	0.0569	0.0560
r2d2	0.7602	0.3871	0.3738	0.1469	0.0900	0.0793
r3d2	0.5576	0.3236	-0.8379	0.3111	0.1319	0.1201
r4d2	0.4796	0.1027	-0.7713	0.1886	0.1047	0.0994
r5d2	0.9956	1.0124	-0.4383	0.8607	0.3119	0.3045
r6d2	-1.0868	0.1703	-1.0821	0.4983	0.2156	0.2040
r7d2	0.2824	0.4102	-0.9276	0.4762	0.1856	0.1746
r1d3	0.8807	0.2306	0.6442	0.0900	0.0847	0.0868
r2d3	0.5391	0.4571	1.2248	0.1821	0.1467	0.1894
r3d3	0.4771	0.5216	1.1971	0.1025	0.1189	0.1772
r4d3	0.6851	0.5925	0.9129	0.0997	0.0863	0.1152
r5d3	0.5514	0.6068	1.4460	0.1085	0.1042	0.1475
r6d3	0.6016	0.3485	0.4684	0.1062	0.1007	0.1416
r7d3	0.1144	0.2937	1.0474	0.1022	0.0979	0.1228
r1d4	0.1328	0.0266	-0.8654	0.0531	0.0550	0.0662
r2d4	0.2045	0.9697	0.7456	0.1061	0.1051	0.1760
r3d4	-0.1396	0.4037	-0.2541	0.0603	0.0984	0.1852
r4d4	0.0523	0.3245	-0.1868	0.0501	0.0583	0.1019
r5d4	0.2978	0.7866	0.9613	0.0693	0.0874	0.1496
r6d4	-0.1473	0.4813	-0.4641	0.0550	0.0641	0.0981
r7d4	-0.2068	0.7505	0.1536	0.0581	0.0713	0.1183
average	y1=0.2036	y2=0.2989	y3=-0.2092	SE1= 0.0188	SE2=0.0184	SE3=0.0223

Table 3.10: Coefficient value and average coefficient value according to areas and demographic factors for Pattani Province.

Notice: d1 = male other, d2 = female other, d3 = male Islam, d4 = female Islam

r1 = Pattani City, r2 = KhokPho+ML, r3 = NongChik, r4 = Panare+SB+MK,

r5 = Mayo+TYD+KP, r6 = Yaring, r7 = Yarang

Factors	Coefficient			SE		
	none	second	high	none	second	high
r1d1	1.1763	-0.4005	-0.5965	0.0956	0.0439	0.0425
r2d1	1.9275	0.1748	0.7916	0.1757	0.1218	0.1151
r3d1	1.8478	0.4672	1.2935	0.2342	0.1563	0.1522
r4d1	2.1761	-0.0671	1.2251	0.2494	0.205	0.1698
r5d1	2.0822	0.6457	1.2811	0.2734	0.2002	0.2038
r6d1	1.7815	0.4904	1.0466	0.113	0.064	0.0656
r7d1	1.7382	0.4919	1.0744	0.1814	0.1189	0.1163
r8d1	1.3793	0.2617	1.0033	0.1283	0.1016	0.0992
r9d1	1.2615	0.1745	0.3404	0.0711	0.0417	0.0389
r10d1	1.7134	0.18	0.9188	0.2443	0.1919	0.1904
r11d1	1.7363	0.5381	1.1306	0.1678	0.101	0.1104
r1d2	0.3249	-0.0668	-0.9787	0.06	0.0334	0.0295
r2d2	1.0591	0.369	0.5891	0.1144	0.0918	0.0783
r3d2	0.4377	0.5831	0.6834	0.1462	0.0932	0.0929
r4d2	0.8115	0.6088	0.7357	0.1705	0.1288	0.1203
r5d2	0.6449	0.3041	0.7832	0.2028	0.1768	0.1582
r6d2	0.622	0.3351	0.1878	0.0776	0.0479	0.0481
r7d2	0.5736	0.7257	0.6928	0.1268	0.0929	0.0899
r8d2	0.3738	0.7936	0.5947	0.0659	0.0526	0.0557
r9d2	0.2705	0.1387	-0.4589	0.0365	0.0235	0.0218
r10d2	0.5778	0.5784	0.4896	0.1647	0.1435	0.1589
r11d2	0.8594	0.3228	0.4933	0.1049	0.078	0.0759
r1d3	1.2913	-0.7401	-0.6038	0.1428	0.1196	0.138
r2d3	1.1628	0.3646	1.6172	0.172	0.1423	0.1637
r3d3	1.2914	0.8873	1.5142	0.3701	0.2763	0.3877
r4d3	0.8459	0.3033	1.2065	0.1704	0.1666	0.1964
r5d3	0.7205	0.5000	1.996	0.2102	0.2922	0.3232
r6d3	1.0192	1.3527	3.9243	0.6205	0.4623	0.4763
r7d3	1.8873	0.7452	1.5747	0.3077	0.2567	0.266
r8d3	1.4029	0.2192	1.0592	0.1669	0.169	0.2018
r9d3	0.9659	0.0412	0.4673	0.1809	0.1274	0.134
r10d3	1.2336	0.293	0.4428	0.3023	0.2252	0.3205
r11d3	1.3946	0.3378	1.3022	0.1778	0.2141	0.2491
r1d4	0.6113	0.1089	0.0009	0.132	0.1128	0.1116
r2d4	0.6048	0.264	0.4815	0.0851	0.0958	0.1491
r3d4	0.1264	1.1464	0.8888	0.1912	0.1864	0.3446
r4d4	0.2292	0.3434	0.3086	0.0945	0.1081	0.1557
r5d4	0.3747	0.8354	1.7798	0.1395	0.219	0.2636
r6d4	-0.4844	0.3665	0.2198	0.4488	0.2768	0.4542
r7d4	0.1953	0.8264	0.7461	0.1993	0.1668	0.2036
r8d4	0.1169	0.0668	-0.0955	0.0952	0.1018	0.1385
r9d4	0.1707	0.2009	-0.198	0.0998	0.075	0.0849
r10d4	0.0288	-0.0683	0.3093	0.1768	0.1543	0.234
r11d4	0.1374	0.2311	0.2239	0.1186	0.1467	0.207
average	y1=0.7361	y2=-0.0032	y3=-0.3805	SE1=0.0225	SE2=0.0145	SE3=0.0138

Table 3.11: Coefficient value and average coefficient value according to areas and demographic factors for Songkhla Province

Notice: d1 = male other, d2 = female other, d3 = male Islam, d4 = female Islam

r1 = Songkhla City, r2 = Chana+NaMom, r3 = NaThawi, r4 = Thepa, r5 = SabaYoi

r6 = Ranot+KS+ST+KN, r7 = Rattaphum, r8 = Sadao+KHK, r9 = Hat Yai

r10 = Bangklam, r11 = SinghaNakorn

From Table 3.10 and 3.11, the average coefficient values were used to determine the unemployment rate of people with different education levels, compared to people who completed elementary education, in forms of odds ratio (OR) that are displayed in Table 3.12.

Edu. Level	Average coeff.		SE		OR		95% CI	
	PN	SK	PN	SK	PN	SK	PN	SK
Elem	0	0	0	0	1	1	-	-
None	0.2036	0.7361	0.0188	0.0225	1.2258	2.0878	1.1889-1.2626	2.0437-2.1319
Sec	0.2989	-0.0032	0.0184	0.0145	1.3483	0.9968	1.3123-1.3844	0.9684-1.0252
High	-0.2092	-0.3805	0.0223	0.0138	0.8112	0.6835	0.7675-0.8549	0.6565-0.7105

Table 3.12: The unemployment rate at different education levels, in comparison to the group ‘elementary education completed’, in Pattani and Songkhla Provinces.

Table 3.12 clearly demonstrate that in both Pattani and Songkhla the ‘high’ education group (people with university or post-school vocational training) had a lower likelihood of unemployment (OR = 0.8112 and 0.6835 respectively) than did the categories with less education. The category with least education, ‘none’, had a high likelihood of unemployment (OR= 1.2258 and 2.0878, in Pattani and Songkhla Provinces, respectively) but in Pattani it was, surprisingly, not as high as for the group with secondary education. Reaching a secondary level of education in Pattani was more likely to be associated with unemployment than was elementary education (OR = 1.3483, highly statistically significant) and there was little difference in outcomes between these two levels of education in Songkhla (OR = 0.9968: no statistically significant difference).

From Tables 3.12, it is shown that the pattern of relationship between unemployment and education level was different between Pattani and Songkhla for the group with secondary education. In order to determine how demographic factors influence the unemployment rate of people in the two provinces, an analysis of unemployment rate of population and how it varies with secondary education, in comparison to those with elementary education, at district level, was performed. The result of the analysis is displayed in the form of odds ratio plots in Figure 3.8.

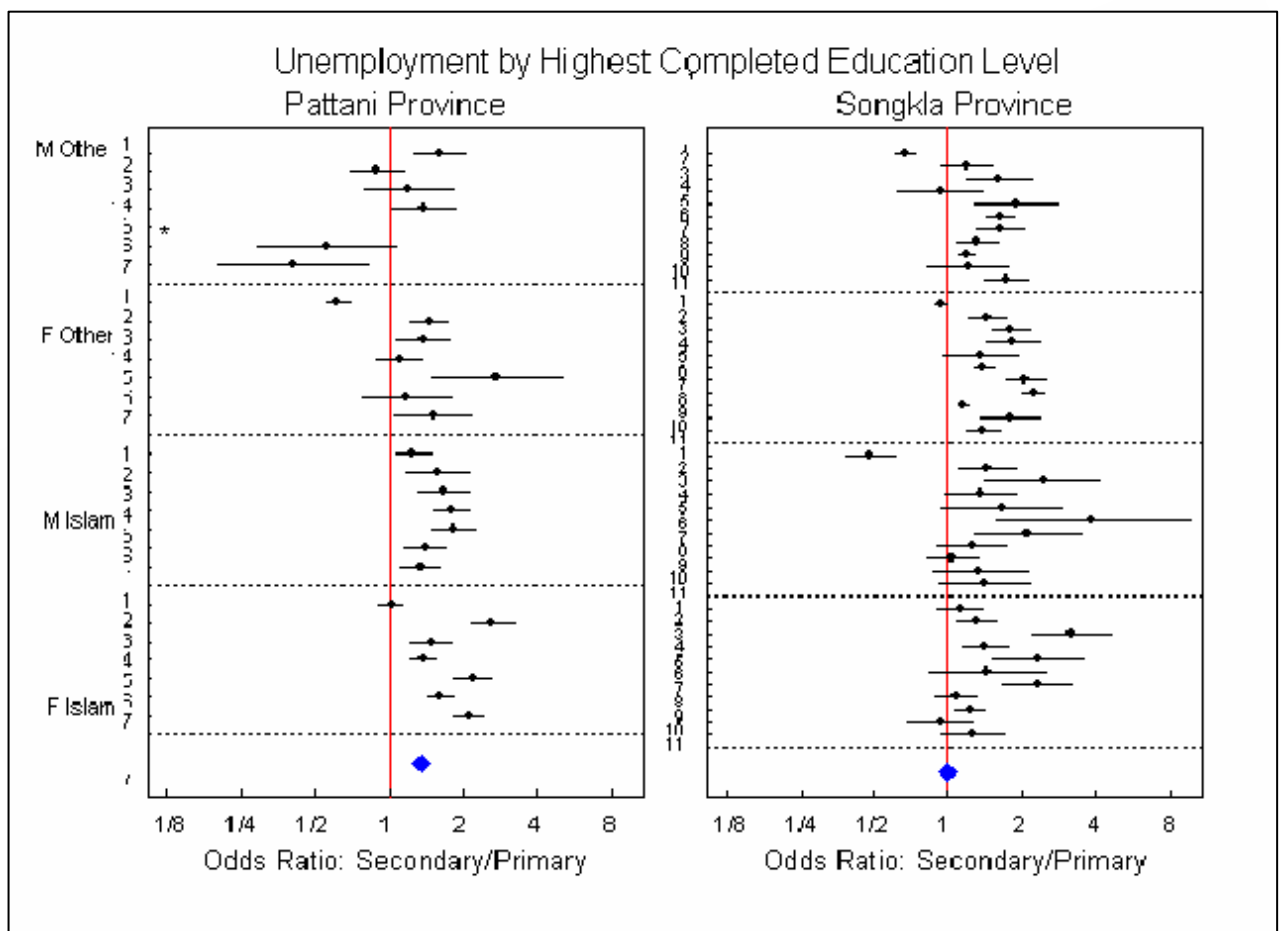


Figure 3.8. Odds ratios plot in order to compare the unemployment rate of the populations with secondary education and elementary education between Pattani and Songkhla, according to demographic factors.

From Figure 3.8 it can be seen that the majority of people in Pattani who completed secondary education are shown to have a higher unemployment rate than those with

elementary education only, especially among Muslims. There are no clear differences in the unemployment rates between these two education level groups in the non-Muslim population. Within each religion group, in both Songkhla and Pattani overall, no group showed statistically significant gender differences, however, in District 5 (Mayor+ Thungyangdeang+ Kaphor) of Pattani, there was no unemployment for the group of 'males-other (non-Muslim)' population with secondary education. For Songkhla, most districts showed no difference in unemployment rates between the two education levels, for all demographic groups.

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