Chapter 5

Empirical Results with the Multivariate Analysis

5.1 Introduction

In this chapter, the empirical results of correlations and regressions linking income, capabilities, social capital, life satisfaction and happiness will be presented. The researcher will also investigate the changes of main variables by migrants' length of stay in Chiang Mai for both Thai and Chinese households.

Our multivariate analysis will be performed using the Correlation and Regression commands within SPSS 17.0. First, we shall use a correlation matrix to check the highly (significantly) correlated variables for an objective variable. The correlated variables cannot be independent variables at the same time exist in one equation. Second, multiple regression will be used to seek the most significantly important independent variables for a dependent variable step by step. Then we know the components or factors of a main variable and complete the process of data reduction and exploration.

The change of variables is tested by ANOVA and the confidence interval is 95% in SPSS17.0. The sample is re-divided into six groups by three stages of length of stay (horizontal area) in Chiang Mai and two ethnic groups (vertical area). We could compare the variables in two kinds of ethnic households at the same stage of length of stay in Chiang Mai, and discuss the difference in variables at different

stage of length of stay in Chiang Mai for each kind of ethnic households.

5.2 Multivariate Analysis of Income per capita

5.2.1 Factors of Income per capita for Joint-Sample

Income per capita is one of main elements in this research. We want to analyze the determinants of income per capita for joint-sample, Thai and Chinese households in Chiang Mai. Thai migrants, as the native Thai people, have steadier and broader social foundation compared with Chinese households. For Chinese migrants, as everyone knows, they have talents on business. Although there's no significant difference in income between Thai and Chinese migrants in Chiang Mai (see the analysis of 4.2.1 T Test of Income), we still have interest to know what factors affect the income of sample in Chiang Mai, are the factors of joint-sample Chinese and Thai households same or not? Considering the income and the size of family members, the income per capita will still be the object of study. And the joint-sample is researched first to introduce the factors of income per capita in this study.

We are now in the position to test the second part of hypothesis 2, the second part of hypothesis number 3 and the hypothesis number 4. The second part of hypothesis 2, to the effect that "This phenomenon (Chinese in Chiang Mai have higher level of income compared with Thai people) depends on the level of skill, education, the length of stay and economic environment in Chiang Mai of sample." The second part of hypothesis number 3, which could be explained as the inequality

of Chinese in Chiang Mai is due to the solidarity (social capital) among them. And the hypothesis number 4 is "The key determinants of income per capita in Chinese households are education, gender of the household head, and horizontal social capital (bonding); while the determinants in Thai households are business and political alliances, no importance of education, and vertical social capital (bridging)."

So the dependent variable is, of course, the income per capita, and the independent variables are the level of skill and education, social capital (bonding capital, bridging capital, average overall social capital and social capital per capita), gender of household head (expressed as female household head), business and political alliance, and the length of stay and economic environment of sample in Chiang Mai. Besides these variables in hypotheses, the capabilities, motivation of immigration and ethnic group (expressed as Chinese) are considered as independent variables and involved in the correlation and regression.

First, the correlations among independent variables and between independent variables and dependent variable of each hypothesis for joint-sample, Chinese and Thai households are tested.

Table 5.1: Comparative Correlations among Variables of Hypothesis 2 and between Variables of Hypothesis 2 and Variables of Other Hypotheses for Joint-sample, Chinese and Thai Households

Independent Variable	Ethnic Group (No. of Sample)	Results	Level of skills & talents	Education of household head	Highest education	Average education	Time in Chiang Mai
Level of skills & talents	Joint-sample (N = 200)	Pearson	1	.163	.067	.146	-.101
		Sig.		.021	**.343**	.039	**.155**
	Chinese (N = 100)	Pearson	1	.330	.245	.407	-.302
		Sig.		.001	.014	.000	.002
	Thai (N = 100)	Pearson	1	.067	-.043	-.021	.087
		Sig.		**.511**	**.668**	**.833**	**.388**
Education of household head	Joint-sample (N = 200)	Pearson	.163	1	.686	.558	-.287
		Sig.	.021		.000	.000	.000
	Chinese (N = 100)	Pearson	.330	1	.691	.629	-.348
		Sig.	.001		.000	.000	.000
	Thai (N = 100)	Pearson	.067	1	.687	.543	-.097
		Sig.	**.511**		.000	.000	**.338**
Highest education	Joint-sample (N = 200)	Pearson	.067	.686	1	.575	-.147
		Sig.	**.343**	.000		.000	.038
	Chinese (N = 100)	Pearson	.245	.691	1	.711	-.211
		Sig.	.014	.000		.000	.035
	Thai (N = 100)	Pearson	-.043	.687	1	.476	-.020
		Sig.	**.668**	.000		.000	**.844**
Average education	Joint-sample	Pearson	.146	.558	.575	1	-.233

Table 5.1. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Level of skills & talents	Education of household head	Highest education	Average education	Time in Chiang Mai
	(N = 200)	Sig.	.039	.000	.000		.001
	Chinese (N = 100)	Pearson	.407	.629	.711	1	-.320
		Sig.	.000	.000	.000		.001
	Thai (N = 100)	Pearson	-.021	.543	.476	1	-.157
		Sig.	**.833**	.000	.000		**.119**
Time in Chiang Mai	Joint-sample (N = 200)	Pearson	-.101	-.287	-.020	-.233	1
		Sig.	**.155**	.000	.038	.001	
	Chinese (N = 100)	Pearson	-.302	-.348	-.211	-.320	1
		Sig.	.002	.000	.035	.001	
	Thai (N = 100)	Pearson	.087	-.097	-.020	-.157	1
		Sig.	**.388**	**.338**	**.844**	**.119**	
Income per capita	Joint-sample (N = 200)	Pearson	.192	.423	.370	.593	-.131
		Sig.	.006	.000	.000	.000	.065
	Chinese (N = 100)	Pearson	.302	.433	.418	.659	-.274
		Sig.	.002	.000	.000	.000	.006
	Thai (N = 100)	Pearson	.106	.442	.325	.544	.103
		Sig.	**.292**	.000	.001	.000	**.308**
Average bonding capital	Joint-sample (N = 200)	Pearson	.248	.122	.108	.124	-.192
		Sig.	.000	.086	**.129**	.081	.007
	Chinese (N = 100)	Pearson	.259	.209	.183	.335	-.333
		Sig.	.009	.037	.069	.001	.001
	Thai	Pearson	.233	.044	.046	-.066	.010

Table 5.1. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Level of skills & talents	Education of household head	Highest education	Average education	Time in Chiang Mai
	(N = 100)	Sig.	.020	**.663**	**.646**	**.514**	**.924**
Average bridging capital	Joint-sample (N = 200)	Pearson	.262	.049	.113	.133	-.087
		Sig.	.000	**.493**	**.112**	.060	**.222**
	Chinese (N = 100)	Pearson	.312	.189	.208	.422	-.203
		Sig.	.002	.060	.038	.000	.043
	Thai (N = 100)	Pearson	.179	.012	.094	-.150	-.020
		Sig.	.074	**.909**	**.351**	**.136**	**.840**
Average overall social capital	Joint-sample (N = 200)	Pearson	.277	.088	.120	.140	-.144
		Sig.	.000	**.216**	.091	.049	.041
	Chinese (N = 100)	Pearson	.306	.209	.208	.406	-.276
		Sig.	.002	.037	.037	.000	.005
	Thai (N = 100)	Pearson	.227	.030	.079	-.122	-.007
		Sig.	.023	**.767**	**.433**	**.227**	**.947**
Social capital per capita	Joint-sample (N = 200)	Pearson	.135	.366	.206	.381	-.082
		Sig.	.057	.000	.003	.000	**.248**
	Chinese (N = 100)	Pearson	.180	.409	.231	.477	-.122
		Sig.	.073	.000	.021	.000	**.228**
	Thai (N = 100)	Pearson	.092	.328	.202	.309	.011
		Sig.	**.362**	.001	.044	.002	**.917**
Female household head	Joint-sample (N = 200)	Pearson	-.110	-.020	-.030	-.016	.001
		Sig.	**.122**	**.777**	**.677**	**.818**	**.987**
	Chinese	Pearson	-.041	-.027	-.012	-.113	-.060

Table 5.1. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Level of skills & talents	Education of household head	Highest education	Average education	Time in Chiang Mai
	(N = 100)	Sig.	**.684**	**.794**	**.902**	**.261**	**.552**
	Thai (N = 100)	Pearson	-.155	-.028	-.052	.059	.104
		Sig.	**.123**	**.782**	**.605**	**.558**	**.302**
Business alliance	Joint-sample (N = 200)	Pearson	.053	.085	.058	.072	.038
		Sig.	**.453**	**.234**	**.411**	**.312**	**.589**
	Chinese (N = 100)	Pearson	.115	.124	.106	.111	-.026
		Sig.	**.253**	**.221**	**.294**	**.271**	**.794**
	Thai (N = 100)	Pearson	.039	.020	.010	.051	.152
		Sig.	**.697**	**.844**	**.925**	**.611**	**.130**
Political alliance	Joint-sample (N = 200)	Pearson	-.032	.021	-.033	-.118	-.069
		Sig.	**.651**	**.770**	**.639**	.096	**.332**
	Chinese (N = 100)	Pearson	-.087	.070	.007	-.054	-.009
		Sig.	**.387**	**.487**	**.942**	**.596**	**.928**
	Thai (N = 100)	Pearson	.087	-.221	-.159	-.182	-.048
		Sig.	**.391**	.027	**.113**	.069	**.638**
Average overall capability score	Joint-sample (N = 200)	Pearson	.468	.245	.199	.256	-.320
		Sig.	.000	.000	.005	.000	.000
	Chinese (N = 100)	Pearson	.500	.338	.400	.563	-.453
		Sig.	.000	.001	.000	.000	.000
	Thai (N = 100)	Pearson	.495	.058	-.069	-.051	-.030
		Sig.	.000	**.565**	**.498**	**.611**	**.765**
Motivation of	Joint-sample	Pearson	-.162	-.184	-.228	-.224	.227

Table 5.1. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Level of skills & talents	Education of household head	Highest education	Average education	Time in Chiang Mai
immigration	(N = 200)	Sig.	.022	.009	.001	.001	.001
	Chinese (N = 100)	Pearson	-.374	-.317	-.399	-.528	.263
		Sig.	.000	.001	.000	.000	.008
	Thai (N = 100)	Pearson	.057	.190	.078	.180	.078
		Sig.	**.571**	.059	**.438**	.073	**.440**
Chinese	Joint-sample (N = 200)	Pearson	.120	-.202	-.108	.010	.142
		Sig.	.090	.004	**.129**	**.888**	.045
Average of overall sufficiency	Joint-sample (N = 200)	Pearson		.295	.219	.144	-.273
		Sig.		.000	.002	.042	.000
	Chinese (N = 100)	Pearson		.364	.323	.354	-.382
		Sig.		.000	.001	.000	.000
	Thai (N = 100)	Pearson		.137	.067	-.083	-.006
		Sig.		**.173**	**.507**	**.414**	**.953**
Average of overall happiness	Joint-sample (N = 200)	Pearson		.225	.214	.154	-.121
		Sig.		.001	.002	.030	.088
	Chinese (N = 100)	Pearson		.311	.245	.370	-.284
		Sig.		.002	.014	.000	.004
	Thai (N = 100)	Pearson		.156	.198	-.026	.107
		Sig.		**.122**	.048	**.801**	**.287**
Average of satisfaction	Joint-sample (N = 200)	Pearson		.219	.237	.204	-.152
		Sig.		.002	.001	.004	.031

Table 5.1. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Level of skills & talents	Education of household head	Highest education	Average education	Time in Chiang Mai
	Chinese (N = 100)	Pearson		.238	.317	.413	-.268
		Sig.		.017	.001	.000	.007
	Thai (N = 100)	Pearson		.006	.084	-.098	.199
		Sig.		**.953**	**.407**	**.334**	.047

Table 5.2: Comparative Correlations among Variables of Hypothesis 3 and between Variables of Hypothesis 3 and Variables of Other

Hypotheses for Joint-sample, Chinese and Thai Households

Independent Variable	Ethnic Group (No. of Sample)	Results	Average bonding capital	Average bridging capital	Average overall social capital	Social capital per capita
Average bonding capital	Joint-sample (N = 200)	Pearson	1	.700	.903	.082
		Sig.		.000	.000	**.249**
	Chinese (N = 100)	Pearson	1	.780	.930	.141
		Sig.		.000	.000	**.161**
	Thai (N = 100)	Pearson	1	.628	.892	-.040
		Sig.		.000	.000	**.693**
Average bridging capital	Joint-sample (N = 200)	Pearson	.700	1	.939	.123
		Sig.	.000		.000	.082
	Chinese (N = 100)	Pearson	.780	1	.956	.224
		Sig.	.000		.000	.025
	Thai (N = 100)	Pearson	.628	1	.912	-.122
		Sig.	.000		.000	**.225**

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Table 5.2. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Average bonding capital	Average bridging capital	Average overall social capital	Social capital per capita
Average overall social capital	Joint-sample (N = 200)	Pearson	.903	.939	1	.114
		Sig.	.000	.000		**.109**
	Chinese (N = 100)	Pearson	.930	.956	1	.198
		Sig.	.000	.000		.048
	Thai (N = 100)	Pearson	.892	.912	1	-.092
		Sig.	.000	.000		**.362**
Social capital per capita	Joint-sample (N = 200)	Pearson	.082	.123	.114	1
		Sig.	**.249**	.082	**.109**	
	Chinese (N = 100)	Pearson	.141	.224	.198	1
		Sig.	**.161**	.025	.048	
	Thai (N = 100)	Pearson	-.040	-.122	-.092	1
		Sig.	**.693**	**.225**	**.362**	
Income per capita	Joint-sample (N = 200)	Pearson	.265	.295	.305	.279
		Sig.	.000	.000	.000	.000
	Chinese (N = 100)	Pearson	.336	.388	.386	.389
		Sig.	.001	.000	.000	.000
	Thai (N = 100)	Pearson	.182	.204	.214	.085
		Sig.	.071	.042	.032	**.398**
Female household head	Joint-sample (N = 200)	Pearson	-.247	-.203	-.241	.050
		Sig.	.000	.004	.001	**.479**
	Chinese	Pearson	-.228	-.235	-.246	.069

Table 5.2. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Average bonding capital	Average bridging capital	Average overall social capital	Social capital per capita
	(N = 100)	Sig.	.022	.019	.014	**.495**
	Thai (N = 100)	Pearson	-.264	-.173	-.240	.029
		Sig.	.008	.085	.016	**.776**
Business alliance	Joint-sample (N = 200)	Pearson	-.055	.040	-.003	.008
		Sig.	**.440**	**.578**	**.971**	**.907**
	Chinese (N = 100)	Pearson	-.074	.058	-.001	.043
		Sig.	**.466**	**.570**	**.994**	**.669**
	Thai (N = 100)	Pearson	-.029	.096	.041	-.026
		Sig.	**.771**	**.340**	**.688**	**.800**
Political alliance	Joint-sample (N = 200)	Pearson	.123	-.044	.033	-.023
		Sig.	.084	**.541**	**.645**	**.743**
	Chinese (N = 100)	Pearson	-.041	-.133	-.098	.113
		Sig.	**.686**	**.187**	**.334**	**.261**
	Thai (N = 100)	Pearson	.388	.338	.401	-.258
		Sig.	.000	.001	.000	.010
Average overall capability score	Joint-sample (N = 200)	Pearson	.635	.540	.631	.073
		Sig.	.000	.000	.000	**.306**
	Chinese (N = 100)	Pearson	.734	.718	.768	.143
		Sig.	.000	.000	.000	**.155**
	Thai (N = 100)	Pearson	.526	.409	.515	-.081
		Sig.	.000	.000	.000	**.425**

Table 5.2. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Average bonding capital	Average bridging capital	Average overall social capital	Social capital per capita
Motivation of immigration	Joint-sample (N = 200)	Pearson	-.268	-.184	-.240	-.128
		Sig.	.000	.009	.001	.071
	Chinese (N = 100)	Pearson	-.442	-.370	-.426	-.190
		Sig.	.000	.000	.000	.058
	Thai (N = 100)	Pearson	.018	.060	.044	.059
		Sig.	**.859**	**.554**	**.662**	**.557**
Chinese	Joint-sample (N = 200)	Pearson	.079	.319	.230	.037
		Sig.	**.266**	.000	.001	**.603**
Average of overall sufficiency	Joint-sample (N = 200)	Pearson	.499	.354	.453	.144
		Sig.	.000	.000	.000	.042
	Chinese (N = 100)	Pearson	.582	.489	.562	.184
		Sig.	.000	.000	.000	.068
	Thai (N = 100)	Pearson	.407	.259	.365	.060
		Sig.	.000	.009	.000	**.554**
Average of overall happiness	Joint-sample (N = 200)	Pearson	.581	.523	.595	.136
		Sig.	.000	.000	.000	.056
	Chinese (N = 100)	Pearson	.711	.664	.725	.183
		Sig.	.000	.000	.000	.069
	Thai (N = 100)	Pearson	.434	.376	.447	.058
		Sig.	.000	.000	.000	**.565**

Table 5.2. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Average bonding capital	Average bridging capital	Average overall social capital	Social capital per capita
Average of satisfaction	Joint-sample (N = 200)	Pearson	.605	.599	.652	.042
		Sig.	.000	.000	.000	**.555**
	Chinese (N = 100)	Pearson	.653	.664	.698	.040
		Sig.	.000	.000	.000	**.694**
	Thai (N = 100)	Pearson	.394	.338	.404	-.207
		Sig.	.000	.001	.000	.039

Table 5.3: Comparative Correlations among Variables of Hypothesis 4 and between Variables of Hypothesis 4 and Variables of Other

Hypotheses for Joint-sample, Chinese and Thai Households

Independent Variable	Ethnic Group (No. of Sample)	Results	Female household head	Business alliance	Political alliance
Female household head	Joint-sample (N = 200)	Pearson	1	-.018	-.069
		Sig.		**.800**	**.333**
	Chinese (N = 100)	Pearson	1	-.095	-.059
		Sig.		**.348**	**.562**
	Thai (N = 100)	Pearson	1	.027	-.109
		Sig.		**.790**	**.282**
Business alliance	Joint-sample (N = 200)	Pearson	-.018	1	-.011
		Sig.	**.800**		**.881**
	Chinese (N = 100)	Pearson	-.095	1	.024
		Sig.	**.348**		**.810**

Table 5.3. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Female household head	Business alliance	Political alliance
	Thai (N = 100)	Pearson	.027	1	-.100
		Sig.	**.790**		**.321**
Political alliance	Joint-sample (N = 200)	Pearson	-.069	-.011	1
		Sig.	**.333**	**.881**	
	Chinese (N = 100)	Pearson	-.059	.024	1
		Sig.	**.562**	**.810**	
	Thai (N = 100)	Pearson	-.109	-.100	1
		Sig.	**.282**	**.321**	
Income per capita	Joint-sample (N = 200)	Pearson	-.151	.081	.013
		Sig.	.032	**.252**	**.860**
	Chinese (N = 100)	Pearson	-.169	.028	-.021
		Sig.	.093	**.780**	**.838**
	Thai (N = 100)	Pearson	-.134	.127	.058
		Sig.	**.183**	**.208**	**.567**
Average overall capability score	Joint-sample (N = 200)	Pearson	-.185	.022	.143
		Sig.	.009	**.759**	.043
	Chinese (N = 100)	Pearson	-.132	.017	-.086
		Sig.	**.190**	.866	**.395**
	Thai (N = 100)	Pearson	-.259	.013	.407
		Sig.	.009	**.900**	.000
Motivation of immigration	Joint-sample	Pearson	.188	.278	-.048

Table 5.3. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Female household head	Business alliance	Political alliance
	(N = 200)	Sig.	.008	.000	**.501**
	Chinese	Pearson	.211	.047	.039
	(N = 100)	Sig.	.035	**.643**	**.698**
	Thai	Pearson	.187	.672	-.106
	(N = 100)	Sig.	.063	.000	**.294**
Chinese	Joint-sample	Pearson	-.030	-.098	-.336
	(N = 200)	Sig.	**.676**	**.166**	.000
Average of overall sufficiency	Joint-sample	Pearson	-.045	-.048	.046
	(N = 200)	Sig.	**.529**	**.503**	**.517**
	Chinese	Pearson	-.068	-.058	.004
	(N = 100)	Sig.	**.499**	**.569**	**.965**
	Thai	Pearson	-.023	-.062	.039
	(N = 100)	Sig.	**.823**	**.539**	**.703**
Average of overall happiness	Joint-sample	Pearson	-.102	.008	.002
	(N = 200)	Sig.	**.152**	**.913**	**.976**
	Chinese	Pearson	-.147	-.031	-.092
	(N = 100)	Sig.	**.144**	**.757**	**.362**
	Thai	Pearson	-.056	.046	.145
	(N = 100)	Sig.	**.581**	**.650**	**.149**
Average of satisfaction	Joint-sample	Pearson	-.249	-.020	-.004
	(N = 200)	Sig.	.000	**.782**	**.960**
	Chinese	Pearson	-.204	-.138	-.252

Table 5.3. (Continued)

Independent Variable	Ethnic Group (No. of Sample)	Results	Female household head	Business alliance	Political alliance
	(N = 100)	Sig.	.042	**.170**	.011
	Thai	Pearson	-.370	.140	.227
	(N = 100)	Sig.	.000	**.164**	.023

Table 5.4: Comparative Correlation among Other Variables and between Other Variables and Income per capita, Life Satisfaction and Happiness

Independent Variable	Ethnic Group (No. of Sample)	Results	Average overall capability score	Motivation of immigration	Chinese	Income per capita	Average of overall sufficiency	Average of overall happiness	Average of satisfaction
Average overall capability score	Joint-sample (N = 200)	Pearson	1	-.385	-.079	.333	.566	.542	.723
		Sig.		.000	**.265**	**.000**	.000	.000	.000
	Chinese (N = 100)	Pearson	1	-.564	.ᵃ	.487	.601	.673	.703
		Sig.		.000	.	**.000**	.000	.000	.000
	Thai (N = 100)	Pearson	1	.026	.ᵃ	.127	.498	.399	.452
		Sig.		**.801**	.	.208	.000	.000	.000
Motivation of immigration	Joint-sample (N = 200)	Pearson	-.385	1	.112	-.209	-.202	-.097	-.305
		Sig.	.000		**.114**	**.003**	.004	**.170**	.000
	Chinese (N = 100)	Pearson	-.564	1	.ᵃ	-.437	-.291	-.250	-.480
		Sig.	.000		.	**.000**	.003	.012	.000
	Thai (N = 100)	Pearson	.026	1	.ᵃ	.207	.041	.145	.108
		Sig.	**.801**		.	**.038**	**.686**	**.150**	**.283**
Chinese	Joint-sample (N = 200)	Pearson	-.079	.112	1	.008	-.086	.060	.100
		Sig.	**.265**	**.114**		.911	**.225**	**.402**	**.160**

Table 5.1 reveals that only two groups of variables in hypothesis 2 are not significantly correlated with each other for joint-sample: the level of skills and talents and highest education, and the level of skills and talents and the length of stay in Chiang Mai. We note that the three indicators of education (education of household head, highest education and average education) are highly correlated with each other. And the Pearson Correlation between the length of stay in Chiang Mai and other variables are all negative, which means that the longer the migrants stay in Chiang Mai, the lower level of skills and talents (not significant) and education they have.

From table 5.1, we could get the result of correlation between variables related in hypothesis 2 (level of skill and talents, education and length of stay in Chiang Mai) and other variables related in other hypotheses (income per capita, social capital, female household head, business and political alliance, capabilities, motivation of immigration and Chinese). For joint-sample, the correlations between every variable and income per capita are significant (less than 0.1). From the Pearson Correlation, the average education of households has highest correlation (PC=0.593) with income per capita. The economic environment is measured by the income in this research, so it can be automatically considered has high correlation with income per capita. We also find that the longer the migrants stay in Chiang Mai, the lower income per capita they get. The other results help us to choose the adapted independent variables of regression which will be discussed later.

Table 5.2 and 5.3 tell us the correlation which is related in hypothesis 3 and hypothesis 4 for joint-sample. There are several groups of variables do not significantly correlate with each other: social capital per capita and bonding capital, social capital per capita and average overall social capital; while the female household head, business and political alliance are not significant correlated with each other. From the Pearson Correlation, the bonding capital has significantly high correlation with bridging capital (PC = 0.700) and average overall social capital (PC = 0.903), and the same situation occurs on the correlation between bridging capital and average overall social capital (PC = 0.939).

From the correlation between variables and income per capita, we know that the Chinese, business and political alliance are not significantly correlated with income per capita for joint-sample. And the households which are male head and came to Chiang Mai for occupation and business have more income per capita compared with female-headed households and came for political reason.

As noted, we constructed the model of income per capita for joint-sample. After considering the correlation among independent variables, the results are shown in table 5.5.

Table 5.5: Regression of Income per capita for Hypotheses

Related Hypotheses	Independent Variables	Coefficients (Joint)		Coefficients (Chinese)		Coefficients (Thai)	
		B	Sig.	B	Sig.	B	Sig.
	(Constant)	-3.508	**.001**	-2.912	**.010**	-3.638	**.047**
For Hypothesis 2 (Joint)	Average education			1.328	**.000**		
	Education of household head						
	Highest education	.889	**.000**			.840	**.001**
	Time in Chiang Mai	-.007	.400				
	Level of skills & talents	.146	.131				
For Hypothesis 4 (Chinese)	Female household head	-.494	.175	-.440	.347		
	Average bonding capital			.294	.163		
For Hypothesis 4 (Thai)	Average bridging capital	.471	**.002**			.353	.187
	Political alliance					.125	.471
	Business alliance					.192	.221
Adjusted R^2		0.203		0.437		0.116	
F statistics		11.120		26.615		4.252	
Significance of F		0.000		0.000		0.003	
Degree of Freedom		199		99		99	

For joint-sample, the level of skills and talents, length of stay in Chiang Mai and female household head are not significantly correlated with income per capita. Other two variables have strong correlation with income per capita, they are: highest education and average bridging social capital.

The highest education has positive and high correlation with income per capita (the coefficient is 0.889). Comparing with the education of household head and average education which are high correlated with other independent variables of the regression for income per capita in joint-sample, highest education, as one of indicators of education, is more suitable to be one of independent variables. The coefficient reflects that if the level of highest education of households increases 1 unit, the level of income per capita will increase 0.889 units.

This part of research includes the social capital indicators. The result reflects that bridging capital (vertical social capital) has significant correlation with income per capita, but bonding capital (horizontal social capital) does not. In fact, the bridging capital tests the network of different levels in this research. The households who have higher bridging capital could get more social resources and interpersonal relationships from different levels. These advantage resources could help households achieve more channels and opportunities of improving their income. The coefficient is 0.471, which means if the score of bridging capital increases 1 unit, the level of income per capita will increase 0.471 units.

Although not significant, the length of stay in Chiang Mai and the female household head have negative correlations with income per capita (the coefficient are -0.007 and -0.494 respectively). This result notes that the households which stay shorter time in Chiang Mai and have male head get more income per capita.

The significance of level of skill is 0.131 (greater than 0.1). Thus the model with this variable cannot explain the regression of income per capita for joint-sample very well. The level of skill should not be the factor of income per capita for joint-sample in this research.

The second part of hypothesis number 2 can be rejected, because the income of households in this research depends on the highest education and bridging social capital, not on the level of skill, the length of stay in Chiang Mai and female household head.

5.2.2 Factors of Income per capita for Chinese Households

The factors of income per capita for Chinese households are researched in this thesis. If we get an adapted regression model for income per capita, we know how to improve the level of households' income in Chiang Mai. As the analysis of income per capita for joint-sample, the correlation in Chinese households is investigated first.

From results of correlation (from table 5.1 to table 5.4), we note that income per capita of Chinese group is correlated with the level of education, capabilities, social capital, motivation of immigration, length of stay in Chiang Mai and the

female household head, while the business and political alliance are not significantly correlated.

We accept the second part of hypothesis number 3. From table 5.2, the social capital has significant relationship with income per capita of Chinese households in Chiang Mai. And the inequality in this research is measured by income per capita (see 4.2.2 Inequality – Gini Coefficient, Lorenz Curve and Theil Index of Income per capita). Thus the inequality of Chinese households is correlated with social capital they have.

The three indicators of education– education of household head, highest education and average education – are all significantly correlated with income per capita in Chinese households. The same situation happens in the domain of social capital, which includes bonding capital, bridging capital, average overall social capital and social capital per capita.

The correlation between income per capita and motivation of immigration is negative and strong. This relation reveals that the lower level of motivation the higher income per capita. The Chinese migrants who came to Chiang Mai for occupation or business could have more income compared with who came for political reasons. In this study, the majority of Chinese migrants who came to Chiang Mai for political asylum during the period 1947-1950 stay at a weak level of life situation. They live together and settle on the hill. Their main source of revenue is agriculture. They plant crops and sell them to others or process them in order to sell.

The length of stay in Chiang Mai and the female household head are negatively and significantly correlated with income per capita for Chinese households. The fact is that the longer Chinese households stay in Chiang Mai the lower of their income per capita. The interviewees said they have less motivation of competition with others who stay at the same level or higher level in Chiang Mai compared with in China. Their sense of earning money is also changed more or less after coming to Chiang Mai. They no longer blindly believe earning money is their main and only object of life. Contrarily, leisure and comfort step in the mind of Chinese migrants gradually. The result of female household head in this research states that the income per capita is higher in male-headed households than in female-headed households. And this phenomenon is significant.

The first part of hypothesis 4 is "The key determinants of income per capita in Chinese households are education, gender of the household head, and horizontal social capital (bonding)." The results of this hypothesis are expressed in table 5.5.

The only factor of income for Chinese households in Chiang Mai is average education. The impact is significant (sig.=0.000) and strong (β_i=1.328), which signifies that if the level of average education increases 1 unit, the income per capita in Chinese households will increase 1.328 units.

Neither the female household head nor bonding capital significantly affects income per capita for Chinese households. The coefficient of female household head, however, is negative. As result of joint-sample, the male-headed households earn

more money than female-headed households in Chinese households. Also, the bridging capital, political and business alliance and the length of stay in Chiang Mai are not significant factors of income per capita for Chinese households.

Thus we should reject the first part of hypothesis 4. The key determinant of income per capita in Chinese households is education, no importance of the gender of the (female) household head (sig. =0.347) and horizontal social capital (bonding) (sig. =0.163).

5.2.3 Factors of Income per capita for Thai Households

From results of correlation (from table 5.1 to table 5.4), we note that income per capita of Thai group is correlated with education, social capital and motivation of immigration, but no significant correlation with length of stay in Chiang Mai and female households head. In the domain of education, income per capita has significant correlation not only with education of household head, highest education but also with average education. In terms of social capital, significances of indictors (bonding, bridging and average overall social capital) are less than 0.1 except social capital per capita.

For testing the second part of hypothesis number 4 – "The determinants (of income per capita) in Thai households are political and business alliances, no importance of education, and vertical social capital (bridging)." – the correlation between alliances (business and political) should also be analyzed. Both correlations are not significant. The regression which is processed for knowing the weights of

factors of income per capita in Thai households is shown in table 5.5.

In education part, the significant factor is highest education. The significance is 0.001. The increase of level of highest education will increase the income per capita for Thai households because of its positive coefficient.

The significances of bridging social capital, political and business alliances are all much greater than 0.1. The presence of these three variables increases the error of model. They cannot be the factors of income per capita in Thai households.

Thus we can not accept the second part of hypothesis 4, because the determinants of income per capita in Thai households is education, no importance of bridging social capital, political and business alliances.

5.2.4 Comparative Factors of Income per capita for Joint-sample, Chinese and Thai Households in Chiang Mai

The research in last three parts analyzes the determinants of income per capita by ethnic groups – joint-sample, Chinese households and Thai households. And the related hypotheses are tested and expressed. In this part, the factors of income per capita are studied by factors. The income per capita of joint-sample, Chinese households and Thai households are compared to discuss which variables are the mutual factors for different ethnic groups, and which are not. The different degree of impact of factors will also be found.

From tables of correlation, the business and political alliance are not significantly correlated with income per capita for joint-sample, Chinese and Thai

households. Besides these two variables, other tested variables are all correlated with income per capita for joint-sample and Chinese households. But the result indicate that per capita income for Thai households doesn't correlate with level of skill, length of stay in Chiang Mai, social capital per capita and female household head. It seems that the tested variables in this research could explain income per capita for joint-sample and Chinese households better than for Thai households.

We note that the correlations between income per capita and female household head and length of stay in Chiang Mai (except for Thai households) are all negative, which signifies that the decrease of level of female household head and length of stay in Chiang Mai will increase the income per capita. Then we can say that the male-headed households and short-term households get more income per capita.

From table 5.5, we could see that the tested variables can be separated by 7 domains: constant, capabilities, social capital, education, length of stay in Chiang Mai, female of household head and alliance. For testing the hypotheses, different number of variables is chosen from every domain.

In the regression of income per capita for joint-sample, the coefficient of highest education (β_i=0.889) is the greatest, which means among the tested variables, the highest education affects the income per capita for joint-sample most. The same situation happens on the average education (β_i=1.328) for Chinese households and the highest education (β_i=0.840) for Thai households. This result

reveals that the education is the biggest factor for income per capita for sample in this research.

The constant is a significant and negative factor of income per capita for joint-sample, Chinese households and Thai households. Beside constant, the level of skill and talents, bonding capital, the education of household head, the length of stay in Chiang Mai, female household head, and the political and business alliance are all have same characters among joint-sample, Chinese households and Thai households. Among these variables, the level of skill and talents, bonding capital, the education of household head, the length of stay in Chiang Mai, female household head, and the political and business alliance can not be the factors of income per capita in the three tested ethnic groups.

Considering the average education, it's a significant and positive factor of income per capita for Chinese households, but not for joint-sample and Thai households since its high correlation with other independent variables. Considering the significance and the correlation among independent variables, the highest education is chosen to be the factor of income per capita for joint-sample and Thai households. Thus in the indicators of education, the highest education has more power of explanation for income per capita in joint-sample and Thai households, while average education has more power to explain income per capita in Chinese households. The significances of highest education for joint-sample and Thai households are 0.000 and 0.001, respectively; and the coefficients are 0.889 and

0.840, respectively. So the impact of highest education on income per capita is greater in joint-sample than in Thai households.

The similar situation occurs on the bridging capital. It is a significant and positive factor of income per capita only in joint-sample, but not in Chinese and Thai households. So for Chinese and Thai households, the level of bridging capital has no significant effect on income per capita.

For testing the hypotheses, the regressions keep the related variables which are not significant. The degree of freedom of joint-sample, Chinese and Thai groups are 199, 99 and 99 respectively. The adjusted R square and F statistics show the degree of explanation of regressions that we got. The significances of F statistics are all less than 0.1 in this research. The highest adjusted R square and F statistics happen when comes to Chinese households. The regression for the income per capita in Chinese households has the highest degree of explanation.

5.3 Multivariate Analysis of Life Satisfaction and Happiness

Traditional Chinese have strong feelings to their homeland. Many Chinese people would like to stay and keep their home where they lived generationally, even though there may have better opportunities outside. Yet, the reality is different nowadays. A lot of Chinese rush out of China to find better future. And the same situation occurs on Thai migrants. They leave their hometown for some reasons. Do the migrants really find a better life in Chiang Mai? Besides income, this research plays great importance on the life satisfaction and happiness of Thai and Chinese

households in Chiang Mai, which could measure the well being from emotion.

In this part, the correlation and regression of life satisfaction and happiness will be processed to find out which variables affect the life satisfaction and happiness of joint-sample, Chinese and Thai households in Chiang Mai.

5.3.1 Factors of Life Satisfaction

In this part, the life satisfaction in joint-sample, Chinese households and Thai households are researched. It attempts to find out the correlated factors of life satisfaction for sample in Chiang Mai. For testing the hypothesis, the independent variables of life satisfaction in this research include missing living with ethnicity score, demand of life overseas and sufficiency. The correlation among independent variables and between independent variables and dependent variable are like following table.

Table 5.6: Comparative Correlation among Variables and between Variables and Life Satisfaction

Independent Variable	Ethnic Group		Average missing home score	Perceived income(B)	Level of understanding of SEP	Average of satisfaction
Average missing home score	Joint-sample	PC	1	.018	.045	.511
		Sig		**.804**	**.585**	**.000**
	Chinese	PC	1	.081	-.169	.566
		Sig		**.422**	**.217**	**.000**
	Thai	PC	1	.036	.156	.239
		Sig		**.719**	**.126**	**.017**
Perceived income(B)	Joint-sample	PC	.018	1	.135	.113
		Sig	**.804**		.097	.112
	Chinese	PC	.081	1	.051	.084
		Sig	**.422**		**.712**	.405

Table 5.6. (Continued)

Independent Variable	Ethnic Group		Average missing home score	Perceived income(B)	Level of understanding of SEP	Average of satisfaction
	Thai	PC	.036	1	.150	.159
		Sig	**.719**		**.141**	.114
Level of understanding of SEP	Joint-sample	PC	.045	.135	1	.118
		Sig	**.585**	.097		.147
	Chinese	PC	-.169	.051	1	-.121
		Sig	**.217**	**.712**		.377
	Thai	PC	.156	.150	1	.107
		Sig	**.126**	**.141**		.296

Only the missing living with ethnicity score is significantly correlated with life satisfaction for joint-sample, Chinese households and Thai households. The demand of life overseas and level of understanding of SEP are not correlated for sample in this research. Most independent variables don't have significant correlation with each other except the demand of life overseas and level of understanding of SEP for joint-sample.

The Pearson Correlation of missing living with ethnicity score is greater than 0.5 and the significance is less than 0.1. But the significances of demand of life overseas score and the level of understanding of SEP (the King Bhumibol's Sufficiency Economy Philosophy) are all greater than 0.1. Thus the life satisfaction of sample in this research is correlated with the feeling of missing living within a completely Chinese society, but not the demand of life overseas and the understand of King's Philosophy.

The Pearson Correlation of missing living with ethnicity score in Chinese households (PC = 0.566) is higher than in joint-sample (PC = 0.511) and Thai households (PC = 0.239). Thus the impact of missing living with ethnicity score on life satisfaction of Chinese households is the biggest, and the impact for Thai households is the least.

For testing the factors of life satisfaction in this study, the following regression is processed. The dependent variable is average life satisfaction, and the tested independent variables include the missing living with ethnicity score, demand of life overseas and level of understanding of SEP.

Table 5.7: Regression of Life Satisfaction

Related Hypotheses	Independent Variables	Coefficients (Joint)		Coefficients (Chinese)		Coefficients (Thai)	
		B	Sig.	B	Sig.	B	Sig.
	Constant	2.360	**.000**	1.710	**.008**	2.795	**.000**
For Hypothesis 6	Missing living with ethnicity score	.345	**.000**	.399	**.000**	.175	**.014**
	Demand of life overseas	.000	.124	.000	.779	.000	.160
	Level of understanding SEP	.042	.256	-.018	.813	.019	.644
Adjusted R^2		0.234		0.285		0.064	
F statistics		16.454		8.164		3.212	
Significance of F		0.000		0.000		0.026	
Degree of Freedom		152		54		97	

As the result of correlation, the only significant factor of life satisfaction for joint-sample, Chinese and Thai households is the missing living with ethnicity score. Another significant factor is constant which has more impact on life satisfaction because of its bigger coefficient.

The coefficient of missing living with ethnicity in Chinese households (β_i =0.399) is bigger than in joint-sample (β_i =0.345) and Thai households (β_i =0.175). So the impact of missing living with ethnicity is greater in Chinese households than in joint-sample and Thai households.

For testing hypothesis 6, we set missing home score, demand of life overseas and the level of understanding of SEP to be the tested variables. According to the research, the demand of life overseas and level of understanding of SEP are not significant factors of life satisfaction in three ethnic groups.

The degree of freedom of joint-sample, Chinese and Thai groups are 152, 54 and 97 respectively. The lowest adjusted R square and F statistics happen when comes to Thai households (Adjusted R square is up to 0.064 and the F statistics is 3.212), and its significance of F statistics is biggest (significance of F statistics is 0.026). Thus the explanation of regression for the life satisfaction in Thai households is worse than in joint-sample and Chinese households.

From above results, we reject the second part of hypothesis number 6, which can be expressed as "The life satisfaction of Chinese households in Chiang Mai is due to they miss living within a completely Chinese society and have higher demand

of life overseas (compared with Thai households), and they don't know about the King's Philosophy which would make them feel better." The life satisfaction of joint-sample, Chinese and Thai households is due to they miss living within a completely ethnicity society, not the demand of life overseas and the level of understanding of King's Philosophy.

5.3.2 Factors of Happiness

This study analyzes the impact of income, capabilities, social capital, education, length of stay in Chiang Mai, female household head, motivation of immigration, business and political alliance and Chinese on happiness of the joint-sample, Chinese households and Thai households. The correlations among independent variables and between independent variables and dependent variable are exercised firstly to explain the relationship between factors and happiness and the result is shown in table 5.1, table 5.2, table 5.3, table 5.4 and table 5.8.

Table 5.8: Comparative Correlation between Variables and Happiness, Sufficient and Life Satisfaction

Independent Variable	Ethnic Group (No. of Sample)	Results	Income per capita	Average of overall happiness	Average of overall sufficiency	Average of satisfaction
Average of overall sufficiency	Joint-sample (N = 200)	Pearson	.127	.583	1	.475
		Sig.	.073	**.000**		.000
	Chinese (N = 100)	Pearson	.199	.712	1	.481
		Sig.	.047	**.000**		.000
	Thai (N = 100)	Pearson	.025	.440	1	.164
		Sig.	**.807**	.000		**.103**
Average of overall happiness	Joint-sample (N = 200)	Pearson	.196	1	.583	.525
		Sig.	.005		.000	.000
	Chinese (N = 100)	Pearson	.291	1	.712	.611
		Sig.	.003		.000	.000
	Thai (N = 100)	Pearson	.092	1	.440	.320
		Sig.	**.361**		.000	.001
Average of satisfaction	Joint-sample (N = 200)	Pearson	.340	.525	.475	1
		Sig.	.000	**.000**	.000	
	Chinese (N = 100)	Pearson	.381	.611	.481	1
		Sig.	.000	**.000**	.000	
	Thai (N = 100)	Pearson	.201	.320	.164	1
		Sig.	.045	**.001**	**.103**	

The result shows that happiness has significant correlation with most scores of income per capita, capability and social capital for joint-sample, Chinese households and Thai households. But for Thai households, the income per capita and social capital per capita don't have significant correlation with happiness.

Beside these variables, the female household head, business and political alliance of joint-sample, Chinese households and Thai households, motivation of immigration of joint-sample and Thai households, Chinese of joint-sample and the education of household head, average education, length of stay in Chiang Mai of Thai households are all not significantly correlated with happiness.

In Chinese households, the happiness is affected by capability (PC = 0.673), bonding capital (PC = 0.711), bridging capital (PC = 0.664) and average overall social capital (PC = 0.725) more than by income per capita. The Pearson Correlations of capability, bonding capital and bridging capital are greater than 0.5. Thus the correlations of these factors are strong. We can get the same result in joint-sample and Thai households. The average overall social capital has the highest correlation with happiness for joint-sample, Chinese and Thai households. The Pearson Correlation of variable in Thai households is less than 0.5. Comparing the Pearson Correlation, we could get the result that the impact of all variables on happiness is greater in joint-sample and Chinese households than in Thai households.

The length of stay in Chiang Mai of joint-sample and Chinese households, and motivation of immigration have negative and significant correlation with happiness, which means the short-term samples and the households who came to Chiang Mai for occupation and business reason have more happiness in daily life and at work.

For knowing the exact weight of impact of every factor, the regression of happiness is processed and the result which consider the correlation among independent variables and between independent variables and dependent variable is shown in table 5.9.

Table 5.9: Regression of Happiness, Income per capita and Life Satisfaction

Independent Variables	Happiness						Income per capita						Life Satisfaction					
	Joint		Chinese		Thai		Joint		Chinese		Thai		Joint		Chinese		Thai	
	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.
constant	.995	**.016**	.230	.653	.706	.366	-1.831	**.039**	-3.726	**.004**	-2.839	**.079**	.082	.808	.775	.158	1.133	**.043**
income	.013	.593	.013	.679	-.006	.870							.043	**.035**	.023	.461	.044	.107
capabilities	.345	**.000**	.484	**.000**	.329	**.011**			.527	**.043**			.620	**.000**	.545	**.000**	.440	**.000**
overall social capital											.524	**.053**						
social capital per capita	.037	.379	.033	.427	.025	.789	.126	.301	.235	.102							-.166	**.033**
average education	-.005	.914	-.014	.855			1.042	**.000**	1.029	**.000**			-.020	.590	-.014	.844		
highest education					.187	**.042**					.771	**.002**						
length of stay in Chiang Mai	.004	**.081**	.003	.185									.004	**.074**	.002	.492	.010	**.023**
female household head							-.765	**.017**	-.602	.189			-.203	**.027**	-.228	.108		
sufficiency	.381	**.000**	.388	**.000**	.320	**.006**							.113	**.026**	.103	.140		
motivation of immigration			.186	**.041**							.947	**.062**						

Table 5.9. (Continued)

Independent Variables	Happiness						Income per capita						Life Satisfaction					
	Joint		Chinese		Thai		Joint		Chinese		Thai		Joint		Chinese		Thai	
	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.
business alliance																		
political alliance															-.117	**.004**		
Chinese																		
happiness							.251	.126										
life satisfaction																		
Adjusted R^2	0.401		0.602		0.237		0.371		0.454		0.146		0.550		0.526		0.270	
F statistics	23.231		22.364		7.138		30.295		21.557		6.637		41.549		16.694		10.136	
Significance of F	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	
Degree of Freedom	199		99		99		199		99		99		199		99		99	

From above regression, the capability, length of stay in Chiang Mai and sufficiency are all significant (sig. <0.1) factors of happiness in joint-sample. The increase of these factors will increase the feel of happiness. Except constant, the most affected factor of happiness in joint-sample is the sufficiency (β_i = 0.381). And the second biggest factor is capability (β_i = 0.345). Income per capita, social capital per capita, education, female household head, motivation of immigration, business and political alliance and Chinese are not significant factors for joint-sample.

The significant and positive factors for Chinese households are capabilities, sufficiency and the motivation of immigration. The capabilities (β_i = 0.484) affect happiness most in Chinese households. The second biggest factor is sufficiency (β_i = 0.388). The constant, income per capita, social capital per capita, education, length of stay in Chiang Mai, female household head, business and political alliance are not significant factors.

For the part of motivation of immigration (β_i = 0.186), the result signifies that migrants who came to Chiang Mai for political reasons is happier than people who came for occupation or business. The political pressure is less and less with time extending. Migrants in Chiang Mai can live in a comfortable life which has less or no impact of politics. But for migrants who came for business and occupation, they have more pressure on money or work. This make migrants have less leisure and light mood in life.

In Thai households, capabilities (β_i = 0.329), highest education (β_i = 0.187), and sufficiency (β_i = 0.320) are significant factors for happiness. And the increase of these factors will increase the happiness. The entering of constant, income per capita, social capital per capita, length of stay in Chiang Mai, female household head, motivation of immigration, business and political alliance decreases the veracity of regression. They are not the factors of happiness in Thai households.

If the level of highest education is high, the happiness is high. But the education of household head and the average education are not significant factors of happiness. It seems that the people who have highest education lead the values of family, of course including the view of money and income. The higher educated members who have the highest education in household have more feeling of happiness in life, and this will infect other members of family.

Comparing the three groups – joint-sample, Chinese households and Thai households, we note that income per capita, social capital per capita, average education, female household head, Chinese, business and political alliance are not significant factors of happiness. The capability and sufficiency are positive and big factors in three groups. Happiness is affected by these two factors much. The impact of capability and sufficiency is greater in Chinese households than in Thai households.

The constant and length of stay in Chiang Mai are significant only in joint-sample, but not for Chinese and Thai households. The longer the households

stay in Chiang Mai the happier they are. In the part of education, highest education is a factor in Thai households, while education is not a factor for joint-sample and Chinese happiness. Motivation of immigration is a positive factor for Chinese households.

Although the income per capita is a non-significant factor of happiness, we should focus on its negative coefficient in the regression of Thai households. The increase of income per capita will lead the slight decrease of the happiness in Thai households.

Then we can reject hypothesis number 7 from the results of correlation and regression, which states that "The happiness is affected by capabilities and social capital more than by income." In fact, the impact of capability and sufficiency is more than social capital and income in this study.

The degree of freedom of joint-sample, Chinese and Thai groups is 199, 99 and 99, respectively. The adjusted R square is biggest in Chinese regression (Adj. R^2 = 0.602) and F statistics is biggest in joint-sample regression (F = 23.231). The F statistics in this research are all significant.

5.4 Multivariate Analysis of Income per capita and Life Satisfaction with the Main Variables in this Research

For testing the impact of main related variables on income per capita and life satisfaction for joint-sample, Chinese and Thai households, this study operates the same process like before. The dependent variable is income per capita and life

satisfaction, respectively. And the independent variables are income per capita (for life satisfaction), capabilities, social capital, education, length of stay in Chiang Mai, female household head, motivation of immigration, business and political alliance, sufficiency and Chinese.

The correlations among independent variables and between independent and dependent variables are shown in table 5.1, table 5.2, table 5.3, table 5.4 and table 5.8.

As related before, all tested variables are significantly correlated with income per capita except Chinese, business and political alliance for joint-sample. For Chinese households, income per capita is not significant correlated with business and political alliance. And the per capita income for Thai households has no significant correlation with capabilities, social capital per capita, happiness, length of stay in Chiang Mai, female household head, sufficiency and the business and political alliance.

The average education has the highest correlation with income per capita for joint-sample (PC = 0.593), Chinese (PC = 0.659) and Thai households (PC = 0.544). Other results reveal that the short-term households, male-headed households, or households who came to Chiang Mai for occupation and business reason could significantly get more income per capita for joint-sample and Chinese households. For Thai households, the only negative variable is female household head, which signifies that the long-term, male-headed households or households who came to

Chiang Mai for political reason get more income per capita.

After considering the correlation among variables, the result of regression of income per capita with tested variables for joint-sample, Chinese and Thai households is shown in table 5.9. The constant is a significant and negative factor of income per capita for joint-sample, Chinese and Thai households, while the sufficiency, length of stay in Chiang Mai, Chinese, happiness and business and political alliance are not significant for three ethnic groups.

The significant independent variables in regression of joint-sample are average education (β_i = 1.042) and female household head (β_i = -0.765). The negative coefficient of female household head reveals that the male-headed households get more income per capita than female-headed households. The capability, social capital, length of stay in Chiang Mai, sufficiency, motivation of immigration, Chinese, happiness and business and political alliance are not significant factors of per capita income for joint-sample.

In Chinese households, the capability (β_i = 0.527) and average education (β_i = 1.029) are significant. As the joint-sample, the average education is the biggest factor of income per capita in Chinese households. If the level of average education increase 1 unit, the income per capita will increase more than 1 unit. The social capital, female household head and motivation of immigration are not significant factors for Chinese households.

The motivation of immigration ($\beta_i = 0.947$), highest education ($\beta_i = 0.771$) and overall social capital ($\beta_i = 0.524$) are factors for Thai households, while the capability and female household head are not significant.

The degree of freedom of joint-sample, Chinese and Thai groups is 199, 99 and 99, respectively. The Chinese regression has the biggest adjusted R square (Adj. $R^2 = 0.454$) and the joint-sample regression has the biggest F statistics (F = 30.295). The F statistics are significant in three regressions of ethnic groups.

For life satisfaction part, the business alliance of joint-sample, Chinese and Thai households, social capital per capita of joint-sample and Chinese households, Chinese and political alliance of joint-sample, the education, motivation of immigration and sufficiency of Thai households are not significantly correlated with life satisfaction.

The capability affects life satisfaction of joint-sample (PC = 0.723), Chinese (PC = 0.703) and Thai households (PC = 0.452) most. And the impact is bigger in Chinese households than in Thai households. The negative correlated variables are length of stay in Chiang Mai, female household head and motivation of immigration for joint-sample and Chinese households, the political alliance for Chinese households. In Thai households, the higher social capital per capita and female household head the lower life satisfaction. Because of the positive overall social capital, the result should be explained as the larger number of members in households the lower life satisfaction for Thai households.

The result in table 5.9 reveals that the impact of capability is significant for joint-sample, Chinese and Thai households. And this kind of impact is bigger for joint-sample (β_i = 0.620) and Chinese households (β_i = 0.545) than for Thai households (β_i = 0.440). The education, motivation of immigration, business alliance and Chinese are not significant in the regression of three ethnic groups.

Beside capability, the income per capita, length of stay in Chiang Mai, female household head and sufficiency are all significant factors of life satisfaction in joint-sample. The negative female household head means that the male-headed households have more life satisfaction compared with female-headed households. The social capital can not be the factor.

The political alliance is a factor of life satisfaction in Chinese households, while the constant, social capital per capita and length of stay in Chiang Mai are factors for Thai households. If the political alliance of Chinese households and social capital per capita of Thai households are high, the life satisfaction is low. And the longer the Thai households stay in Chiang Mai, the higher life satisfaction they have.

The degree of freedom of joint-sample, Chinese and Thai groups is 199, 99 and 99, respectively. The F statistics are significant in three regressions. Because of the highest adjusted R square (Adj. R^2 = 0.550) and F statistics (F = 41.549), the regression of joint-sample has the biggest power of explanation of life satisfaction in this part of research.

5.5 The Change of the Need in Life and the Difference between Two Ethnic Groups by Length of Stay in Chiang Mai.

This part mainly studies the change of variables with the time extending in Chiang Mai. It is tested by ANOVA in SPSS 17.0. The sample is reorganized by ethnic groups and the length of stay in Chang Mai.

According to the distribution of length of stay in Chiang Mai, the new sampling groups are: 0 = Chinese households living in Chiang Mai for 1-15 years (C1-15); 1 = Chinese households living in Chiang Mai for 16-32 years (C16-32); 2 = Chinese households living in Chiang Mai for 33-66 years (C33-66); 3 = Thai households living in Chiang Mai for 1-15 years (T1-15); 4 = Thai households living in Chiang Mai for 16-32 years (T16-32); 5 = Thai households living in Chiang Mai for 33-66 years (T33-66). The definition and frequency of every group with table is like following:

Table 5.10: Definition and Frequencies of Reorganized Groups

Codes	Definition	Frequency	Percent
C1-15	Chinese households who came to Chiang Mai for 1-15 years	91	37.9
C16-32	Chinese households who came to Chiang Mai for 16-32 years	29	12.1
C33-66	Chinese households who came to Chiang Mai for 33-66 years	20	8.3
T1-15	Thai households who came to Chiang Mai for 1-15 years	52	21.7
T16-32	Thai households who came to Chiang Mai for 16-32 years	38	15.8
T33-66	Thai households who came to Chiang Mai for 33-66 years	10	4.2
Total		240	100.0

As expected, both groups' (Thai and Chinese) households are short-term migrants (This point has been proved in Chapter 4 (4.1.2.1.)), which is shown in above table.

There are two objective variables in this part – the need of improving the basic life level of households and the difference between two ethnic groups. The basic life level includes security, political empowerment, health, income, leisure and the contact with hometown. This part of research focuses on the change of basic life level by time in Thai and Chinese group respectively (in horizontal area). And the difference is mainly about the income, capability and social capital between Thai and Chinese group at the same time (in vertical area). The significant (mean difference is marked by *) and meaningful (results in each ethnic group at different period or between two ethnic groups at the same stage of time) results of ANOVA are like following (cancelled the results which are repeated and not significant, and have no meaning):

Table 5.11: Multiple Comparisons of Tested Variables

Multiple Comparisons LSD

Dependent Variable	(I) Ethnic_time	(J) Ethnic_time	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
safety(day)	C1-15	C33-66	0.831[*]	0.303	0.007	0.23	1.43
Political empowerment	C33-66	C1-15	-2.176[*]	0.454	0.000	-3.07	-1.28
		C16-32	-1.828[*]	0.501	0.000	-2.81	-0.84
	T16-32	T33-66	1.305[*]	0.612	0.034	0.10	2.51
Average of bodily health	C1-15	C16-32	0.8674780[*]	0.2445353	0.000	0.385189	1.349767
		C33-66	1.6519608[*]	0.2774021	0.000	1.104850	2.199072
	C33-66	C16-32	-0.7844828[*]	0.3056080	0.011	-1.387223	-0.181742
		T33-66	-1.7500000[*]	0.4072173	0.000	-2.553142	-0.946858
Average of play	C1-15	C33-66	1.0656863[*]	0.3220869	0.001	0.430445	1.700928
		T1-15	-0.6016214[*]	0.2405890	0.013	-1.076127	-0.127116
	C16-32	C33-66	1.2810345[*]	0.3548362	0.000	0.581202	1.980866
	C33-66	T33-66	-1.0500000[*]	0.4728132	0.028	-1.982514	-0.117486
visit home	C1-15	T1-15	-0.907[*]	0.383	0.019	-1.66	-0.15
	T16-32	C16-32	1.290[*]	0.480	0.008	0.34	2.24
Income per capita	C1-15	C33-66	1.538[*]	0.490	0.002	0.57	2.50
		T1-15	0.723[*]	0.366	0.050	0.00	1.44

Table 5.11. (Continued)

Dependent Variable	(I) Ethnic_time	(J) Ethnic_time	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Average overall capability score	C1-15	C16-32	0.3951995*	0.1355267	0.004	0.127905	0.662494
		C33-66	0.8853261*	0.1537421	0.000	0.582105	1.188547
	C33-66	C16-32	-0.4901266*	0.1693744	0.004	-0.824178	-0.156075
		T33-66	-0.6886300*	0.2256885	0.003	-1.133748	-0.243512
Average overall social capital	C1-15	C33-66	0.6339429*	0.1834960	0.001	0.272040	0.995846
		T1-15	0.5291741*	0.1370659	0.000	0.258844	0.799505
	C16-32	C33-66	0.4056762*	0.2021536	0.046	0.006975	0.804377

*. The mean difference is significant at the .050 level.

The results of table 5.11 include the information of 8 variables. The first variable is security, which is separated into safety during the daytime and at night. There are no significant differences in safety-at-night score among the groups. In another word, the feelings of safety at night are almost the same at different period in each ethnic group and between two ethnic groups at the same stage of time.

When considering the results of safety-during-daytime score, the significant result is that this score is higher in short-term (C1-15) Chinese migrants compared with long-term migrants (C33-66). The feeling of safety during the daytime goes down with the extension of time in Chiang Mai for Chinese households. Thus the need of improving the security in the daytime goes up in Chinese households and this kind of need is not significant in Thai households.

The second variable is the political empowerment. There is no significant result by length of stay in Chiang Mai for each ethnic group. But we can analysis the change of political empowerment in each ethnic group by stage of time. The mean difference between C1-15 (Chinese households living in Chiang Mai for 1-15 years) and C33-66 (Chinese households living in Chiang Mai for 33-66 years) is -2.176 (C33-66 – C1-15); while the mean difference between C16-32 (Chinese households living in Chiang Mai for 16-32 years) and C33-66 is -1.828 (C33-66 – C16-32). Thus the political empowerment decreases in Chinese households. In Thai households, we can only research the migrants who stay in Chiang Mai for 16 to 66 years (T16-32 and T33-66). The result reflects that the political empowerment

decrease during this period in Thai households.

The third tested variable is average of bodily health. From the mean difference, we note the order of the group is: C1-15 (Chinese households living in Chiang Mai for 1-15 years) > C16-32 (Chinese households living in Chiang Mai for 16-32 years) > C33-66 (Chinese households living in Chiang Mai for 33-66 years). So the health situation gets worse by the extension of residence time for Chinese households in Chiang Mai. We can say that the improvement of health should be enhanced with the number of years spent in Chiang Mai for Chinese households. There is no significant result for Thai households in this variable. But when considering the migrants who live in Chiang Mai for 33 to 66 years, we find that health situation in Chinese households (C33-66) is weaker than in Thai households (T33-66).

The fourth variable is average of play. It measures the leisure of sampling households. The two mean differences – difference between C1-15 (Chinese households living in Chiang Mai for 1-15 years) and C33-66 (Chinese households living in Chiang Mai for 33-66 years), and the difference between C16-32 (Chinese households living in Chiang Mai for 16-32 years) and C33-66 – are positive and significant. Thus the longer Chinese households stay in Chiang Mai the less they play. Considering the negative difference at the same stage of time – between C1-15 (Chinese households living in Chiang Mai for 1-15 years) and T1-15 (Thai households living in Chiang Mai for 1-15 years), and between C33-66 (Chinese

households living in Chiang Mai for 33-66 years) and T33-66 (Thai households living in Chiang Mai for 33-66 years) – both levels of play are lower in Chinese group compared with Thai group. And the difference between two ethnic groups is larger by the time delays.

The visit home score is the fifth measured variable. There is no significant variable in each ethnic group at the same time. The visit home situation is steady in Thai and Chinese groups at different stage of time in Chiang Mai. However, the visit home score is lower in Chinese households than in Thai households during two periods – 1-15 years and 16-32 years. And this difference between two ethnic groups is larger and larger by extension of time in Chiang Mai because of the increase of absolute mean difference.

The sixth researched variable is income. The significant results indicate that the income per capita deceases by the length of stay in Chiang Mai for Chinese households, and the Chinese households who live in Chiang Mai for 1 to 15 years have more per capita income than Thai households who live for the same years.

From above analysis, we can reject the second part of hypothesis number 9, which states that "But this need (need of improving Chinese basic life level such as security, political empowerment, health, income, leisure and the contact with hometown) will go down significantly with the number of years spent in Chiang Mai." In fact, the score of security (during the daytime), health, leisure and income in Chinese households are decreased with the number of years spent in Chiang Mai

and the same situation occurs to the political empowerment for both ethnic groups. So the need of improving of these variables goes up. The graphical representation of the results is shown in the figure 5.1 (include the results that are not significant). The majority of researched variables are steady in Thai households with the extension of residence time in Chiang Mai.

The last two variables are capability and social capital in this part. From the mean difference, we note the order of the group for capability is: C1-15 (Chinese households living in Chiang Mai for 1-15 years) > C16-32 (Chinese households living in Chiang Mai for 16-32 years) > C33-66 (Chinese households living in Chiang Mai for 33-66 years). The capability decreases in Chinese households. The mean difference between C1-15 and C16-32 is 0.395; while the mean difference between C16-32 and C33-66 is 0.490. This result notes that the change of capability increases in Chinese households by the extension of time in Chiang Mai. For the long-term migrants (living in Chiang Mai for 33-66 years), capability is greater in Thai households than in Chinese households, because the mean difference between C33-66 and T33-66 is -0.689.

The change of social capital variable focuses on Chinese households. The mean difference between C1-15 (Chinese households living in Chiang Mai for 1-15 years) and C33-66 (Chinese households living in Chiang Mai for 33-66 years) is 0.634, while the mean difference between C16-32 (Chinese households living in Chiang Mai for 16-32 years) and C33-66 is 0.406. The smallest social capital in

Chinese migrants happens in households who live in Chiang Mai for 33 to 66 years.

For the short-term migrants (living in Chiang Mai for 1-15 years), the social capital

is higher in Chinese households than in Thai households.

At last, we can reject the hypothesis number 10 – "The significant differences

in income and capabilities between Chinese and Thai people will decrease with the

extension of residence time in Chiang Mai."

First, the income and average overall capabilities are not significantly

different between two ethnic groups, which can be proved by table 4.2 (t test of

income) and table 4.4 (t test of capabilities).

Second, because the majority of differences between two ethnic groups at

different stage of time are not significant in table 5.11, we can not compare them to

discuss the change of difference is significant. The change of income, capability and

social capital in Thai and Chinese groups by length of stay in Chiang Mai are shown
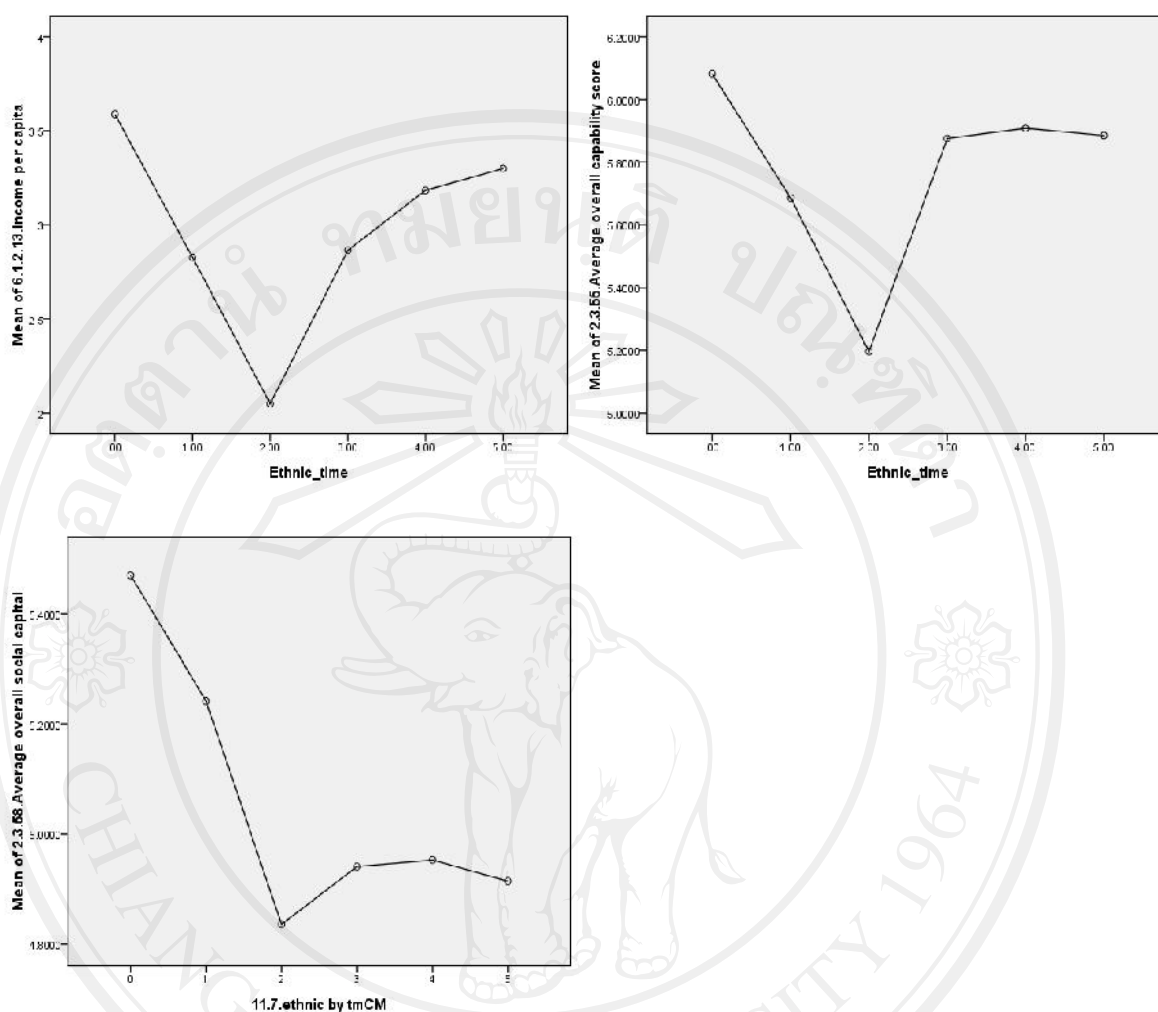
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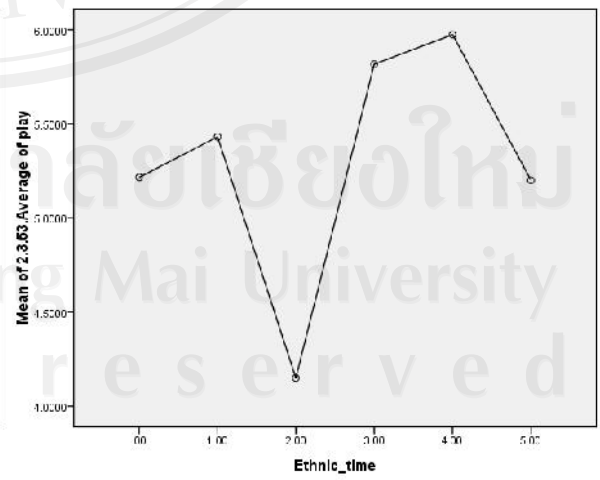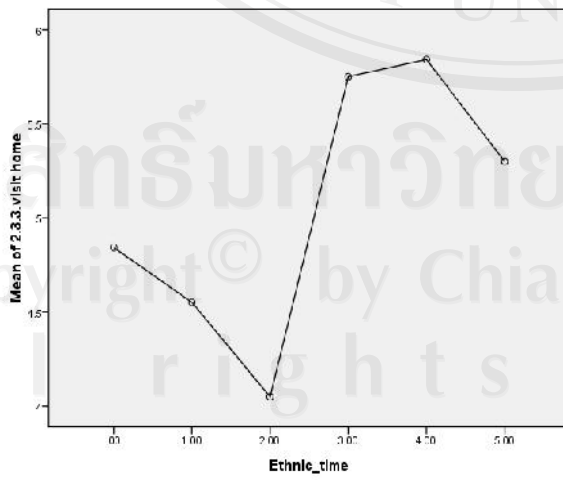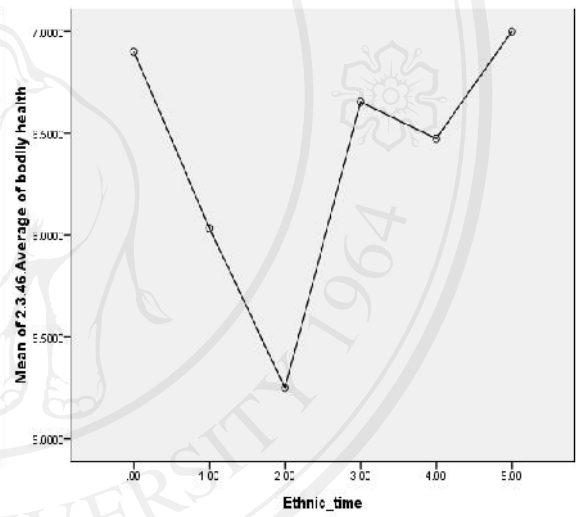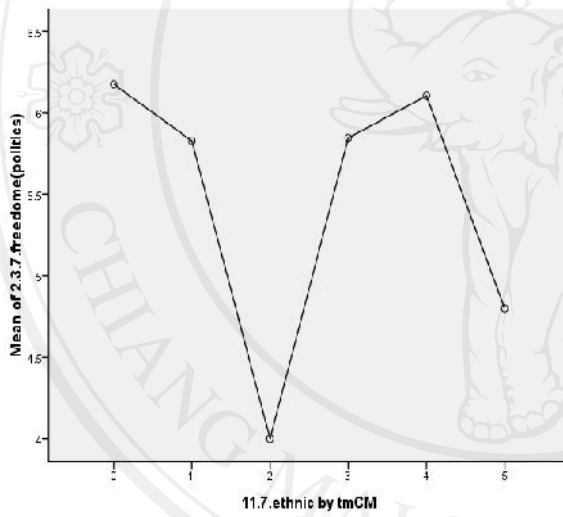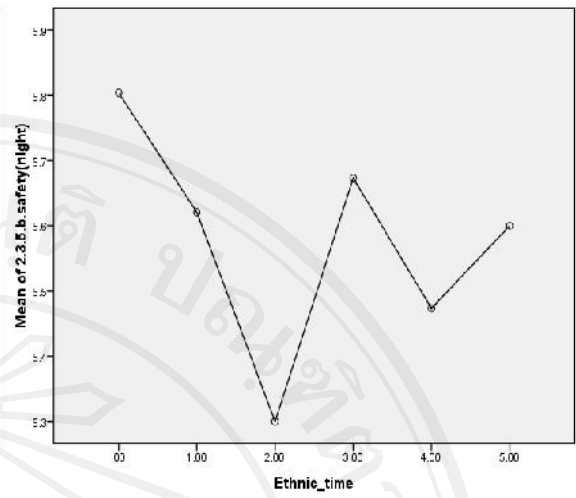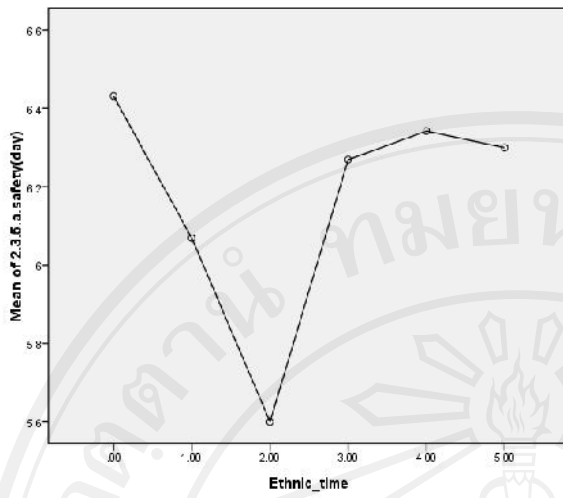
Figure 5.1: Means Plots of Tested Variables

5.6 Summary of the Results Presented in this Chapter

This chapter has shown the determinants of income, life satisfaction and happiness. In income regressions, both constant (negative) and education (positive) are significant factors of income per capita for joint-sample, Chinese households and Thai households. Chinese households' per capita income is more affected by constant compared with Thai households' per capita income. The income per capita is affected by average education in Chinese households, while the highest education affects income per capita in joint-sample and Thai households.

Beside the constant, education is the biggest factor of income per capita in three groups. The level of skill and talents, bonding capital, the education of household head, the length of stay in Chiang Mai, female household head, and the political and business alliance are all not significant factors in the regressions of joint-sample, Chinese and Thai households.

In the regressions of testing hypotheses which relate life satisfaction, both constant and missing living within a complete ethnicity society score are significant factors for joint-sample, Chinese households and Thai households. The impact of missing living within a complete ethnicity society score on life satisfaction is greater in Chinese households than in Thai households. The demand of life overseas and the level of understanding of SEP are not the factors of life satisfaction for three groups.

For happiness in joint-sample, Chinese and Thai households, the same factors are capability and sufficiency. Both of them are positive in every group and have greater impact in Chinese households than in Thai households. Income per capita, social capital per capita, average education, female household head, Chinese, business and political alliance are not significant factors of happiness for three groups.

In order to test the impact of main variables on income, life satisfaction and happiness, the new regressions are estimated. The results show that the income per capita is not a significant factor of happiness and life satisfaction (except for joint-sample). On the contrary, capability is significant for happiness, income per

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capita (only for Thai households) and life satisfaction. The social capital is only significant for income per capita and life satisfaction in Thai households.

For joint-sample, the longer they stay in Chiang Mai the more happiness and life satisfaction they have. And the male-headed households have more income per capita and life satisfaction than female-headed households for joint-sample. The impact of sufficiency on happiness for three groups and life satisfaction for joint-sample is significant and positive. The business alliance and Chinese are not significant factors of income per capita, life satisfaction and happiness in joint-sample, Chinese and Thai households.

The impact of education is greater than capability and social capital on income per capita for joint-sample, Chinese and Thai households. And the life satisfaction and happiness are affected by capability or social capital more than by income for three groups.

This chapter also researches the change of variables by length of stay in Chiang Mai. The results reflect that the need of improving of income, capability, social capital, leisure, health and security (during the daytime) in Chinese households, and the political empowerment in both ethnic groups is significantly more and more with the extension of residence time in Chiang Mai.