CHAPTER 6

DETERMINANTS OF CAREER ASPIRATIONS (MULTIVARIATE ANALYSIS)

6.1 Introduction

The aim of this chapter is to find important determinants of career aspirations and the relationship between these determinants and career aspirations. This is achieved by using multiple regression models representing the Form 5 and Form 6 samples with career preference and career expectation as dependent variables. A comparison is made between the independent variables influencing career preference and career expectation and also between the variables influencing the Form 5 and the Form 6 samples.

The variables that are considered for analysis are shown in Table 3.1 of Chapter 3. Some additional variables are included in the regression models such as the intention to further one's education to the university and relationship with parents. The categorical variables are further categorised into dummy variables and explanations for all the independent variables used in the regression models are given in Table 6.1. In Section 6.2, all the self concept variables are assessed together with its interaction terms. Normality of the distribution, multicollinearity, and the influence of significant self concept and interaction variables are assessed in Sections 6.3, 6.4 and 6.5. The problem of heteroscedasticity is dealt with in Section 6.6. The models are then diagnosed for outliers and influential observations in Section 6.7.

In Section 6.8, career preference is then included as an independent variable for the models with career expectation as the dependent variable. Section 6.9 then concentrates on one category of independent variables which needs further explanation, that is the perceived work value variables. The results of the factor analysis method used to obtain these variables are presented in this section.

The regression models are then re-estimated, by including all the self concept variables, the interaction variables, career preference as an independent variable and the work value variables. The results are displayed in Table 6.5 and Section 6.10 then interprets the results with Section 6.11 and 6.12 making comparisons between career preference and career expectation and between the Form 5 and Form 6 samples. The explanatory power of the different models are given in Section 6.13.

The chapter is then concluded in Section 6.14 by summarising the important findings and identifying main variables influencing career aspirations.

6.2 Self Concept Variables And Interaction Terms

Table 6.1 describes all the self concept variables that are expected to have a significant influence on career aspirations. Some of these variables are dummy variables taking unit value and some are continuous variables. The expected influence of a few of these variables are also given in Table 6.1. These expectations are based on the review of literature concerning factors influencing career aspirations. Some of the self concept variables are expected to interact with other self concept variables and these interaction terms are also considered when regressing the variables on career aspirations.

Four models are estimated to explain career preference and career expectation of the Form 5 and Form 6 sample. All the self concept variables and its interaction terms are included as independent variables in these four models. The results of the estimation of the models are displayed as Model 1 in Tables 6.2, 6.3, 6.4 and 6.5. Four additional models are also estimated which consist of only the self concept variables without the interaction terms. The results are displayed as Model 2 in Table 6.2, 6.3, 6.4 and 6.5. The purpose for estimating models with and without the interaction terms is to identify self concept variables that are insignificant due to its correlation with some of the interaction terms.

Table 6.1: Description And Expected Influence Of Self Concept Variables

Independent Variables	Description	Expected Influence
Demographic Variables		
Female	Dummy variable taking unit value if respondent is of the female gender.	It is expected to have a negative influence on career aspirations
Indians	Dummy variable taking unit value if the respondents is an Indian, as a proxi for ethnic influence	No prior expectations
Chinese	Dummy variable taking unit value if the respondents is a Chinese, as a proxi for ethnic influence	No prior expectations
Large town	Dummy variable taking unit value if the respondent grew up in a large town, as a proxi for the influence of locality.	A positive influence is expected as respondents from large towns are expected to have high career aspirations
Family Related Variables		
Birth order	Continuous variable representing the birth order of respondents, i.e. the order in which the respondents were born	A negative influence is expected as later-borns are expected to have lower career aspirations
Family size	Continuous variable representing the size of the family in terms of the number of children in the family including the respondent	A negative influence is expected as respondents from smaller families are expected to have higher career aspirations
Check work	Dummy variable taking unit value if the respondents' parents checked their homework very often, as a proxi for parental interest	A positive influence is expected as the higher the parental interest, the higher the expected career aspirations.
PInterest	Continuous variable for the sum of the responses for questions pertaining to parental interest	A positive influence is expected as the higher the parental interest, the higher the expected career aspirations.
Prelationship	Dummy variable taking unit value if respondents stated that their relationship with their parents is very good, as a proxi for parental relationship	A positive relationship is expected as the better the relationship, the higher the expected career aspirations
Socio-economic status		
Fatheredu	Dummy variable taking unit value if the father's highest level of education is upper secondary and above	A positive relationship is expected as respondents whose fathers are highly educated are expected to have higher career aspirations
Motheredu	Dummy variable taking unit value if the mother's highest level of education is upper secondary and above	A positive relationship is expected as respondents whose mothers are highly educated are expected to have higher career aspirations
poccustat	Continuous variable using Trieman's Occupational Prestige Scores to proxi parents' occupational status.	A positive relationship is expected as respondents whose parents have occupations of high prestige are expected to have higher career aspirations

Inc2000 (for Form 5 sample only)	Dummy variable taking unit value if the parents' occupational income is more than RM2000	Is expected to have a positive influence as respondents whose parents' occupational income are higher are expected to have higher career aspirations.
Inc1000 (for Form 6 sample only)	Dummy variable taking unit value if the parents' occupational income is less than RM1000	Is expected to have a negative influence as respondents whose parents occupational income are lower are expected to have lower career aspirations.
Academic Related Variables		
SRP (for Form 5) *SPM* (for Form 6)	Continuous variable using *SRP* or *SPM* scores to proxi academic achievement.	A negative relationship is expected as the lower the aggregate scores (better results) the higher the expected career aspirations
Furedu	Dummy variable taking unit value if the respondent's school leaving plans is to further their education immediately, as a proxi for ambitious academic intentions	A positive relationship is expected as respondents who have ambitious academic intentions are also expected to have high career aspirations
wowhile	Dummy variable taking unit value if the respondent's plan is to work a while before furthering education	No prior expectations
University	Dummy Variable taking unit value if the respondent intends to further their education up to university level, as a proxi for ambitious academic intentions.	A positive relationship is expected as respondents who have ambitious academic intentions are also expected have high career aspirations
Science	Dummy variable taking unit value if respondents are from the Science stream as a proxi for stream of study	No prior expectations is expected
scholarship	Dummy variable taking unit value if the respondent's main source of financing their education was either scholarships or loans and not family resources, as a proxi for parents' financial capability	No prior expectations
responsibility	Dummy variable taking unit value if the respondent holds at least 1 position of responsibility in school, as a proxi for respondents' leadership capabilities	No prior expectations
Interaction Variables (Interaction of one self concept variable with another)		
Variable 1_Variable 2	Interaction of variable 1 with variable 2	No prior expectations
Female_boysjob	Unit value for females who feel that there is equal occupational opportunities for males and females	No prior expectations

Table 6.2: Coefficients Of Self Concept And Interaction Variables With Form 5 Career Preference As The Dependent Variable

Independent Variables	Model 1 (all self concept variables and interaction terms)				Model 2 (only self concept variables)			
	Coeffi cients	p value for t test	TOL	VIF	Coeffi cients	p value for t test	TOL	VIF
Female	3.57	0.000	0.101	9.889	2.427	0.000	0.958	1.043
Indians	-0.193	-0.96	0.028	35.573	3.074	0.000	0.897	1.115
Chinese	-0.632	-0.758	0.031	31.839	-2.324	0.000	0.670	1.492
Large town	1.642	0.008	0.287	3.483	0.283	0.460	0.749	1.335
Birth order	-0.022	0.809	0.519	1.927	-0.004	0.962	0.522	1.914
Family size	0.161	0.059	0.467	2.141	0.155	0.069	0.470	2.130
Check work	0.962	0.007	0.900	1.111	1.011	0.004	0.911	1.098
PInterest	0.564	0.020	0.807	1.239	0.565	0.019	0.814	1.229
Prelationship	1.064	0.001	0.913	1.095	0.999	0.002	0.916	1.092
Fatheredu	0.481	0.552	0.219	4.568	0.850	0.091	0.567	1.763
Motheredu	0.430	0.668	0.230	4.345	0.866	0.161	0.604	1.656
poccustat	0.006	0.694	0.383	2.611	0.001	0.912	0.847	1.180
Inc2000	1.213	0.231	0.330	3.033	0.138	0.833	0.789	1.267
SRP	-0.280	0.000	0.434	2.306	-0.271	0.000	0.538	1.858
Furedu	3.634	0.000	0.156	6.429	3.727	0.000	0.157	6.381
wowhile	1.858	0.013	0.163	6.154	1.926	0.009	0.164	6.105
University	2.812	0.000	0.735	1.360	2.913	0.000	0.750	1.334
Science	3.360	0.000	0.663	1.509	3.322	0.000	0.682	1.466
scholarship	1.159	0.038	0.902	1.109	1.289	0.020	0.919	1.088
responsibility	1.300	0.002	0.926	1.080	1.160	0.020	0.901	1.108
Large town female	-1.855	0.012	0.308	3.245				
Large town Chinese	-0.803	0.351	0.319	3.133				
Large town Indian	-1.097	0.456	0.372	2.688				
Chinese srp	0.022	0.618	0.159	6.288				
Indian srp	0.02	0.804	0.100	10.025				
Female fatheredu	0.741	0.459	0.264	3.784				
Female motheredu	0.100	0.936	0.316	3.162				
Chinese fatheredu	-1.225	0.306	0.347	2.881				
Chinese motheredu	1.677	0.258	0.412	2.426				
Indian fatheredu	2.172	0.179	0.339	2.953				
Indian motheredu	-3.557	0.119	0.426	2.350				
Female income2000	-1.148	0.377	0.380	2.632				
Chinese income2000	-1.091	0.036	0.058	17.341				
Indian income2000	2.070	0.034	0.062	16.047				
Female poccustat	-0.016	0.468	0.090	11.140				
Chinese poccustat	0.029	0.319	0.079	12.698				
Indian occustat	-0.051	0.352	0.079	12.592				
Female boysjob	-0.203	0.651	0.768	1.302				

Note: TOL stands for the Tolerance Level
VIF stands for the Variance Inflation Factor

Table 6.3: Coefficients Of Self Concept And Interaction Variables With Form 5 Career Expectation As The Dependent Variable

Variables	Model 1 (all self concept variables and interaction terms)				Model 2 (only self concept variables)			
	Coeffi cients	p value for t test	TOL	VIF	Coeffi cients	p value for t test	TOL	VIF
Female	5.230	0.000	0.101	0.894	2.557	0.000	0.960	1.042
Indians	6.943	0.085	0.028	35.402	4.026	0.000	0.902	1.109
Chinese	1.639	0.440	0.031	32.079	0.880	0.054	0.670	1.494
Large town	0.863	0.176	0.289	3.458	0.174	0.659	0.754	1.327
Birth order	-0.032	0.733	0.518	1.929	-0.006	0.950	0.522	1.914
Family size	0.097	0.088	0.467	2.140	0.085	0.331	0.470	2.127
Check work	1.200	0.001	0.901	1.110	1.212	0.001	0.912	1.097
PInterest	0.556	0.025	0.804	1.244	0.544	0.028	0.811	1.233
Prelationship	0.715	0.036	0.913	1.096	0.721	0.033	0.915	1.093
Fatheredu	-0.977	0.240	0.224	4.471	0.751	0.146	0.579	1.726
Motheredu	2.183	0.036	0.234	4.278	2.002	0.002	0.617	1.620
poccustat	0.075	0.000	0.386	2.594	0.042	0.000	0.851	1.176
Inc2000	2.853	0.007	0.334	2.995	1.507	0.027	0.796	1.255
SRP	-0.220	0.000	0.435	2.297	-0.213	0.000	0.536	1.865
Furedu	0.324	0.683	0.155	6.452	0.418	0.594	0.157	6.374
wowhile	-0.954	0.214	0.162	6.169	-0.858	0.259	0.164	6.086
University	2.137	0.000	0.740	1.352	2.204	0.000	0.755	1.325
Science	2.596	0.000	0.661	1.513	2.616	0.000	0.680	1.470
scholarship	0.896	0.120	0.900	1.110	1.012	0.075	0.918	1.089
responsibility	1.06	0.000	0.936	1.069	1.07	0.000	0.911	1.120
Large town female	-0.362	0.636	0.308	3.249				
Large town Chinese	-0.963	0.278	0.323	3.098				
Large town Indian	-2.970	0.057	0.360	2.776				
Chinese srp	0.043	0.357	0.160	6.235				
Indian srp	-0.109	0.194	0.106	9.414				
Female fatheredu	1.961	0.057	0.263	3.806				
Female motheredu	-0.628	0.627	0.312	3.208				
Chinese fatheredu	2.051	0.095	0.363	2.755				
Chinese motheredu	-0.109	0.944	0.430	2.328				
Indian fatheredu	0.684	0.745	0.346	2.894				
Indian motheredu	1.329	0.577	0.426	2.350				
Female income2000	-1.715	0.206	0.381	2.627				
Chinese income2000	-0.729	0.181	0.056	17.816				
Indian income2000	0.406	0.700	0.060	16.721				
Female poccustat	-0.066	0.003	0.090	11.154				
Chinese poccustat	0.009	0.772	0.080	12.520				
Indian occustat	-0.012	0.834	0.080	12.423				
Female boysjob	0.163	0.725	0.769	1.300				

Note: TOL stands for the Tolerance Level
VIF stands for the Variance Inflation Factor

Table 6.4: Coefficients Of Self Concept And Interaction Variables With Form 6 Career Preference As The Dependent Variable

Variables	Model 1 (all self concept variables and interaction terms)				Model 2 (only self concept variables)			
	Coeffi cients	p value for t test	TOL	VIF	Coeffi cients	p value for t test	TOL	VIF
Female	6.582	0.000	0.067	15.013	2.875	0.000	0.916	1.091
indians	4.426	0.325	0.032	31.664	3.549	0.000	0.774	1.292
Chinese	1.117	0.680	0.030	33.738	-2.540	0.000	0.440	2.271
Large town	0.510	0.643	0.199	5.014	-0.666	0.255	0.703	1.423
Birth order	-0.09	0.481	0.574	1.742	-0.10	0.435	0.581	1.722
Family size	-0.01	0.934	0.502	1.994	0.012	0.917	0.506	1.975
Check work	0.480	0.430	0.900	1.112	0.421	0.485	0.910	1.098
PInterest	0.981	0.003	0.793	1.261	0.955	0.004	0.807	1.239
Prelationship	0.351	0.448	0.889	1.215	0.263	0.568	0.901	1.110
Fatheredu	4.543	0.003	0.143	6.972	1.137	0.133	0.569	1.757
Motheredu	-3.854	0.037	0.176	5.673	1.729	0.070	0.660	1.514
poccustat	0.007	0.870	0.297	3.372	-0.03	0.078	0.880	1.136
Inc1000	0.164	0.860	0.217	4.618	-0.202	0.714	0.617	1.620
SPM	-0.105	0.051	0.301	3.318	-0.175	0.000	0.513	1.951
Furedu	3.658	0.021	0.076	13.244	3.687	0.020	0.075	13.261
wowhile	1.525	0.335	0.077	13.069	1.535	0.331	0.077	13.070
University	-0.060	0.959	0.912	1.096	-0.08	0.946	0.935	1.069
Science	3.268	0.000	0.669	1.494	3.592	0.000	0.714	1.400
scholarship	-1.096	0.158	0.889	1.125	-1.359	0.077	0.904	1.106
responsibility	0.020	0.700	0.865	1.518	0.028	0.079	0.855	1.218
Large town female	-1.113	0.330	0.312	3.205				
Large town Chinese	-0.577	0.646	0.265	3.772				
Large town Indian	-3.243	0.082	0.316	3.169				
Chinese SPM	-0.141	0.108	0.086	11.596				
Indian SPM	-0.259	0.068	0.077	13.052				
Female fatheredu	-2.138	0.162	0.225	4.447				
Female motheredu	7.361	0.000	0.292	3.421				
Chinese fatheredu	-4.291	0.010	0.246	4.060				
Chinese motheredu	3.203	0.130	0.328	3.048				
Indian fatheredu	-1.082	0.657	0.258	3.877				
Indian motheredu	-1.017	0.723	0.353	2.834				
Female income1000	-0.824	0.418	0.215	4.662				
Chinese income1000	0.013	0.992	0.494	2.026				
Indian income1000	4.933	0.020	0.450	2.224				
Female poccustat	-0.06	0.074	0.072	13.829				
Chinese poccustat	-0.007	0.855	0.073	13.666				
Indian occustat	0.112	0.111	0.060	16.684				
Female boysjob	-1.401	0.017	0.702	1.425				

Note: TOL stands for the Tolerance Level
VIF stands for the Variance Inflation Factor

Table 6.5: Coefficients Of Self Concept And Interaction Variables With Form 6 Career Expectation As The Dependent Variable

Variables	Model 1 (all self concept variables and interaction terms)				Model 2 (only self concept variables)			
	Coeffi cients	p value for t test	TOL	VIF	Coeffi cients	p value for t test	TOL	VIF
Female	6.543	0.001	0.066	15.120	2.532	0.000	0.920	1.087
Indians	5.545	0.292	0.031	31.993	4.936	0.000	0.782	1.278
Chinese	2.927	0.328	0.030	33.125	1.932	0.014	0.439	2.280
Large town	1.977	0.108	0.203	4.916	-0.031	0.963	0.711	1.407
Birth order	-0.068	0.626	0.580	1.726	-0.047	0.732	0.584	1.714
Family size	-0.047	0.719	0.512	1.954	-0.040	0.763	0.515	1.940
Check work	1.274	0.062	0.905	1.105	1.256	0.063	0.917	1.091
PInterest	-0.029	0.939	0.802	1.247	-0.071	0.847	0.813	1.230
Prelationship	0.579	0.265	0.892	1.121	0.730	0.157	0.901	1.110
Fatheredu	2.468	0.152	0.142	7.056	1.042	0.223	0.569	1.758
Motheredu	0.283	0.890	0.176	0.567	3.754	0.000	0.647	1.547
Poccustat	0.067	0.036	0.293	3.415	0.031	0.097	0.879	1.138
Inc1000	-1.277	0.218	0.219	4.576	-1.740	0.004	0.627	1.594
SPM	-0.049	0.412	0.309	3.239	-0.072	0.120	0.513	1.949
Furedu	4.694	0.008	0.076	13.176	4.556	0.010	0.076	13.203
Wowhile	2.894	0.101	0.077	12.992	2.775	0.116	0.077	13.007
University	2.723	0.041	0.897	1.115	2.638	0.046	0.926	1.079
Science	2.518	0.000	0.654	1.529	2.942	0.000	0.700	1.429
Scholarship	0.696	0.424	0.882	1.134	0.701	0.416	0.901	1.110
Responsibility	0.041	0.832	0.846	1.236	0.048	0.866	0.850	1.114
Large town_female	-0.772	0.549	0.320	3.127				
Large town_Chinese	-1.413	0.314	0.270	3.704				
Large town_Indian	-6.419	0.003	0.324	3.088				
Chinese_*SPM*	-0.037	0.702	0.086	11.618				
Indian_*SPM*	-0.10	0.567	0.075	13.335				
Female_fatheredu	-1.560	0.371	0.224	4.464				
Female_motheredu	2.814	0.193	0.302	3.306				
Chinese_fatheredu	-2.731	0.147	0.251	3.976				
Chinese_motheredu	4.431	0.061	0.323	3.099				
Indian_fatheredu	4.212	0.134	0.273	3.669				
Indian_motheredu	2.263	0.500	0.348	2.870				
Female_income1000	-0.542	0.633	0.214	4.671				
Chinese_income1000	-0.343	0.804	0.484	2.065				
Indian_income1000	4.019	0.108	0.507	1.973				
Female_poccustat	-0.061	0.101	0.072	13.855				
Chinese_poccustat	0.006	0.878	0.075	13.339				
Indian_occustat	0.032	0.703	0.056	17.742				
Female_boysjob	-1.963	0.003	0.707	1.413				

Note: TOL stands for the Tolerance Level
VIF stands for the Variance Inflation Factor

6.2.1 Influence Of Self Concept Variables On Career Aspiration

A) Demographic Variables

Gender

The fact that the respondent is a female has a positive influence on career aspirations for all models in Tables 6.2, 6.3, 6.4 and 6.5., whether the interaction terms are included or not. However, when the interaction terms are removed from the models, all the models show that the coefficient for the variable 'female' decreases.

The low TOL (Tolerance Level) and high VIF (Variance Inflation Factor) (refer to Section 3.6.2 (b) of Chapter 3 on Multicollinearity) of 'female' for the models with self concept variables and interaction terms but the high TOL and VIF for the models with just self concept variables show that there may be some multicollinearity between the variable 'female' and some of the interaction terms.

Ethnicity

The ethnic variables of Chinese and Indians are insignificant for all models with interaction terms in Tables 6.2, 6.3, 6.4 and 6.5. However, when the interaction terms are excluded, all the models show that Indians compared to the *Bumiputera* respondents have a significant positive influence on career aspirations and Chinese compared to *Bumiputera* respondents have a significant negative influence on career aspirations.

The low TOL and high VIF of these ethnic variables for the models with self concept variables and interaction terms but the high TOL and low VIF for the models with only self concept variables show that there is some multicollinearity between the ethnic variables of Chinese and Indians with some of the interaction terms.

Locality

For most cases in Tables 6.2, 6.3, 6.4 and 6.5, respondents from large towns have career aspirations that are not significantly higher compared to other areas. As the

variable 'large town' is insignificant even when the TOL for large town is a high of 0.7 and above, this could mean that when controlled for all other self concept variables, the variable 'large town' does not have a significant influence on career aspirations and this is probably due to reasons other than multicollinearity.

B) Family Characteristics

Birth order and family size

Both birth order and family size do not show any significant influence on career aspirations for all models with or without the interaction terms. However, even with only self concept variable, the TOLs for these two variables show low figures of around 4.0 to 5.0. This could mean that there may be high correlation between birth order and family size. The correlation between birth order and family size is a high of around 0.6 for both samples. This could be due to the fact that for those from large families, there is a higher probability of them being a later born.

It was found, however, for all models, that birth order and family size have an insignificant influence on career aspirations even when one of the variables is excluded from the models. Hence it can be concluded that after controlling for all self concept variables, birth order and family size have an insignificant influence on career aspirations and this is not due to the high correlation between the two variables.

Parental interest and parental relationship

Parental interest proxied by the variables 'check work' and 'pinterest' and the respondents relationship with their parents proxied by the variable 'prelationship', significantly influence career aspirations of the Form 5 models in a positive manner. Their influence on career aspiration is significant with or without the interaction terms. For the Form 6 sample however, these variables do not significantly influence career aspirations whether the interaction terms are included or not.

These variables have a high TOL of above 0.8 for all situations indicating that there is not much multicollinearity between these variables and the other self concept variables.

Mother's and father's educational level

Mother's and father's educational level significantly influence career aspirations for some models but are insignificant for some.

Preliminary analysis of the correlation matrix showed that there was high correlation between father's highest level of education and mother's highest level of education. i.e. 0.697 for the Form 5 sample and 0.665 for the Form 6 sample. The bivariate analysis also show that these two variables influence career aspirations in a similar manner. The TOLs for these variables in all models are also very low and the VIFs are high. Even after removing the interaction terms, the TOLs for all the models show low figures of 0.6 and less. All this indicates that there may be a high correlation between these two variables and that one of the variables should be removed.

Parents' occupational income and parents' occupational status

Parents' occupational income and parents' occupational status are found to have significant positive influence on Form 5 career expectation for models with or without the interaction terms. Parents' occupational status have a significant positive influence on Form 6 career expectation with interaction terms but not for the model without interaction terms. Parents' occupational income on the other hand has a positive influence on Form 6 career expectation only for the model without the interaction terms.

As the TOL for these variables is low and the VIF is high for the models with the interaction terms, this indicates that there may be high multicollinearity between these variables and the interaction terms.

C) Academic Related Influence

Prior academic achievement (*SRP/SPM*)

With the exception of Form 6 career expectation, prior academic achievement negatively influences career aspirations for all models with and without interaction terms. The reason why *SPM* does not significantly influence the Form 6 career expectation even for the model with just self concept variables could be due to the fact that there is some multicollinearity between *SPM* and the other self concept variables in that model.

The TOL and VIF for all the models show that even for the models with just self concept variables, the value of the TOL is low and VIF is high for the prior academic achievement variable. The models with only self concept variables also show that the TOL is low and VIF is high for the variable 'Chinese'. This could indicate that there may be some correlation between the variable 'Chinese' and prior academic achievement. It can be seen from Table 4.10 that for the Form 6 sample, Chinese compared to other ethnic groups have a much lower *SPM* aggregate (16.41 for Chinese compared to 20.12 for Indians and 26.09 for *Bumiputera*) and this probably explains the negative correlation between the variables.

Further education immediately and work a while

Intention to further one's education immediately compared to working immediately shows a significant positive influence for all models with and without the interaction terms, except for the Form 5 career expectation models. Work a while before furthering one's education however is only significant for the Form 5 career preference models with and without interaction terms.

The TOLs show low figures of less than 0.50 for the variables 'furedu' and 'wowhile' for all the models regardless of whether the interaction terms are included or not. This could indicate that there may be some correlation between these two variables. This could be because only a very low proportion of the respondents were in the base category of work immediately (i.e. 6.5% for the Form 5 sample and 2.6% for the Form 6

sample) and the majority of the respondents had intentions to either further their education or work a while.

Science

The fact that respondents were from the Science stream shows a significant positive influence for all the models regardless of whether the interaction terms were included or not. The high TOLs of around 0.7 indicates that this variable is not highly correlated with any other variables in the models.

University

The fact that respondents intend to further their education to the university has a significant positive influence on Form 5 career aspirations and Form 6 career expectation. It does not significantly influence Form 6 career preference.

The TOLs for this variable show a high of over 0.7 for all the models indicating that this variable may not be highly correlated with any of the other self concept variables in the model.

Responsibility

The fact that the respondent holds at least 1 position of responsibility in school has a significant positive influence on only Form 5 career aspirations. This is so, with or without the inclusion of the interaction variables.

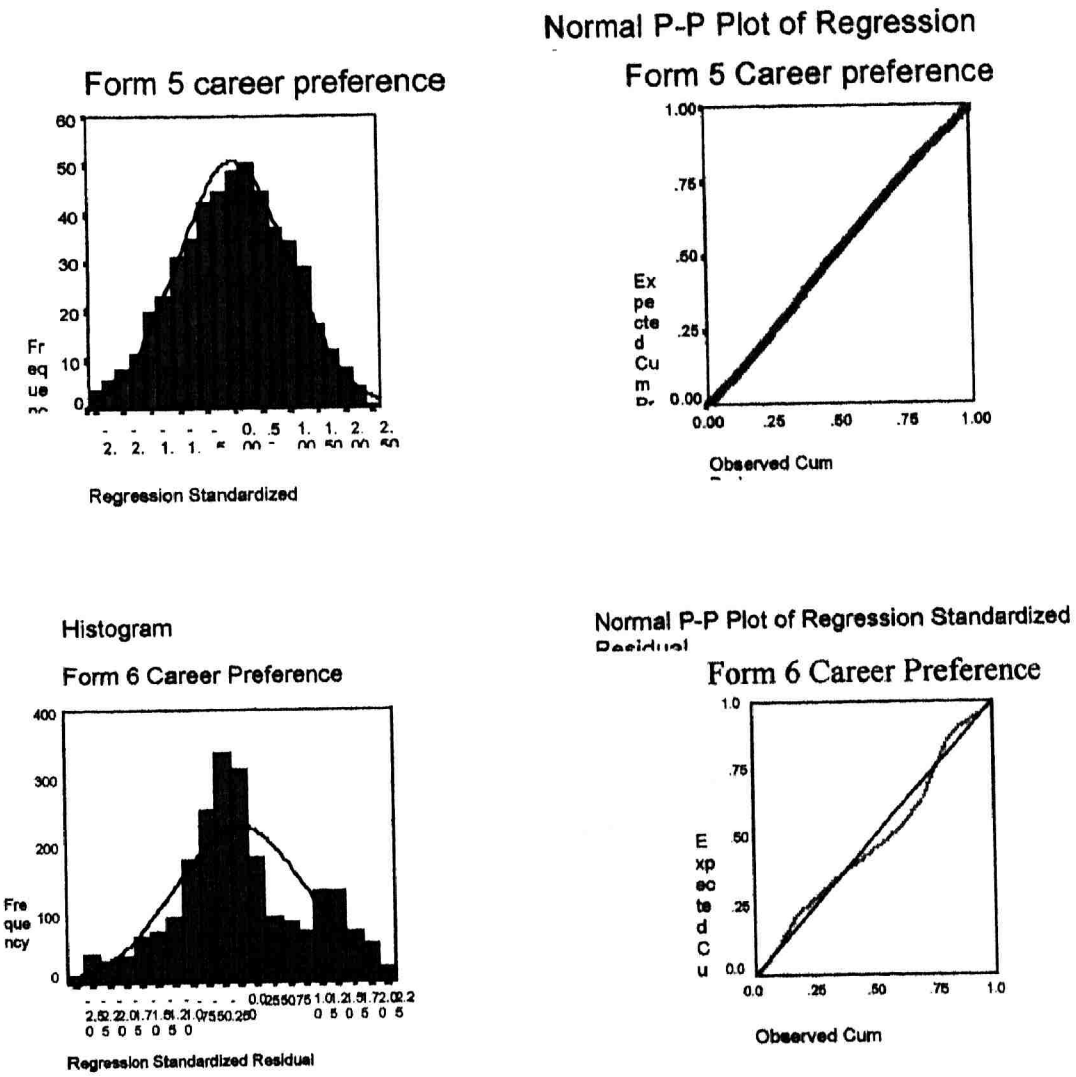
Scholarship

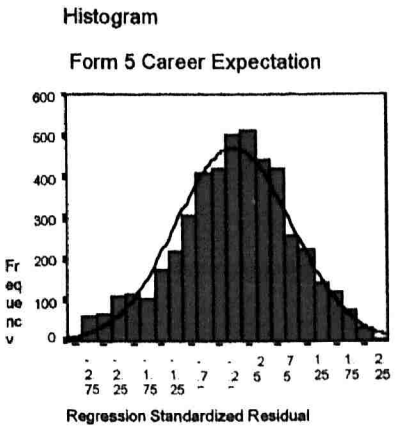
The fact that scholarships or loans were the respondents' main source of finance has a significant influence on only Form 5 career preference.

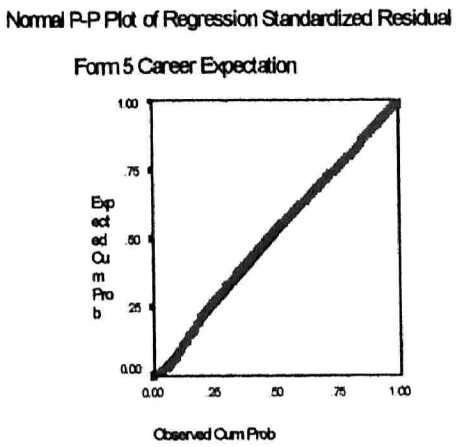
6.3 Normality Of Distribution

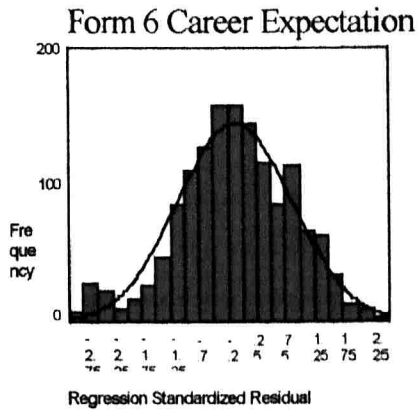
The histograms and normal probability plots for the residuals obtained from the regression estimation of all the self concept and interaction variables on career aspiration are shown in Figure 6.1. Only the histogram and normal probability plot for Form 6 career preference as the dependent variable, seems to portray a distribution that is not normal (refer to Section 3.6.2 (a) for details on normality). The distribution for Form 6 career preference seems to be more skewed to the left. This seems to indicate that a higher proportion of Form 6 respondents prefer low prestige careers. The histograms and normal probability plots for all the other models seem to depict a normal distribution.

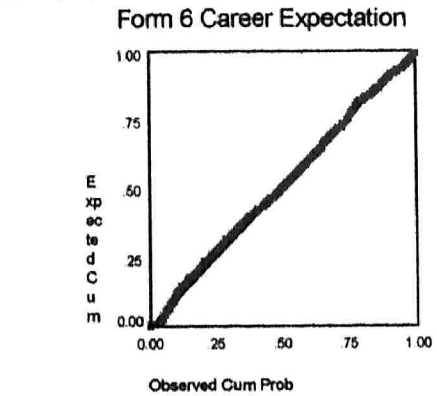
Figure 6.1: Histogram and Normal Probability Plots For Distribution In Career Aspiration











6.4 Multicollinearity

The discussion of the self concept and interaction variables leads to the conclusion that some of the independent variables displayed in Tables 6.2, 6.3, 6.4 and 6.5. are highly correlated with the other variables in the model. Some are correlated with the other self concept variables in the model while others are correlated with the interaction terms. Section 3.6.2 (b) of Chapter 3 shows some of the methods used to detect and reduce the multicollinearity effect. The following shows some of the variables that are expected to be highly correlated and how the problem is dealt with.

Correlation between father's highest level of education and mother's highest level of education

As father's highest level of education and mother's highest level of education is found to be highly correlated, one of these variables is excluded from the models. To determine which variable to drop, certain criteria shown in Table 6.6 are taken into consideration. The models used in Table 6.6 to determine which variable to drop are the models that contain all the self concept variables without its interaction terms. The models with interaction terms are not used as father's highest level of education and mother's highest level of education is found to be highly correlated with some of the interaction terms and the unique effect of these two variables will be difficult to determine if the interaction terms are included.

In terms of adjusted R^2, there does not seem to be any evidence to show that dropping any of the two variables would cause the R^2 to be higher. However, Table 6.6 shows that when both variables are included, mother's highest level of education has higher coefficients, t values and also higher partial correlation. Hence, mother's highest level of education is chosen in all models as the independent variable representing parents' educational level.

Table 6.6: Coefficients For Models Including Both Father's And Mother's Education Level And Including Either One Of The Variables

	Career Preference			Career Expectation		
	Model with both variables	**Model with only mother's highest level of education**	**Model with only father's highest level of education**	**Model with both variables**	**Model with only mother's highest level of education**	**Model with only father's highest level of education**
			Form 5			
Partial Correlation	0.009		0.032	0.029		0.054
Adjusted R^2	0.156	0.154	0.154	0.147	0.15	0.147
Coefficient	0.345		1.117	1.116		1.861
t value (p value)	0.664 (0.506)		2.464 (0.014)	2.100 (0.036)		4.012 (0.000)
			Form 6			
Partial Correlation	0.033		0.057	0.028		0.071
Adjusted R^2	0.099	0.099	0.098	0.120	0.117	0.116
Coefficient	1.137		1.766	1.042		2.378
t value (p value)	1.504 (0.133)		2.62 (0.009)	1.220 (0.223)		3.126 (0.002)

Note: Those highlighted in green are for mother's highest level of education and in yellow are for father's highest level of education

After observing a low Tolerance Level (TOL) and a high Variance Inflation Factor (VIF) for some variables, the following correlation between variables are detected:

Correlation between further education and work a while for both samples

For both samples, there is indication of high correlation between 'further education immediately' and 'work a while', with 'work immediately' used as a base category. To reduce this effect, the category of 'work a while' was excluded from the model to combine with the category of 'work immediately' as the base category.

The remaining multicollinearity in the models lie between interaction terms and other variables

Correlation between Indians and income of RM2000 and above for the Form 5 career preference model

. For the model on Form 5 career preference, although the interaction term 'Indian_ Inc2000' was found to be significant, it was also found to be highly correlated with the ethnicity variable, 'Indian'. This is detected by cross tabulating the income variable for more than RM2000 with the variable 'Indian'. For the Form 5 sample, only 8.5% of those with income more than RM2000 were Indians. Hence, this could give misleading results The best way to reduce the effect of this problem is to remove the interaction term from the Form 5 career preference model.

Correlation between '*SRP*' and the interaction term '*SRP* large town' for the Form 5 career preference model

It was also found that the interaction term 'large town _*SRP*', 'and '*SRP*' may be highly correlated. Table 4.10 shows that the *SRP* aggregate for large town respondents in the Form 5 sample is much lower compared to those from the rural or medium town areas. This probably explains a negative correlation between these two variables. As *SRP* is a very important determinant variable, '*SRP*' is included in the model but the interaction term 'large town _ *SRP*' is removed from the model.

Correlation between 'Indians' with the interaction term 'Indian _ *SRP*' and 'Inc2000' with the interaction term 'Inc2000_female' for the Form 5 career expectation model

In a similar manner, for the Form 5 sample, the variables 'Indian _*SRP*' and 'Indians' were found to be correlated whereby the interaction term is thus removed from the Form 5 career expectation model. The variables 'Inc2000' with 'female_Inc2000' were also found to be correlated and here too better results can be produced if the interaction term is removed from the Form 5 career expectation model.

Correlation between 'Chinese' with '*SPM*' and also with the interaction term 'Chinese_ *SPM*' for the Form 6 career aspiration models

For the Form 6 career preference and career expectation models, a high correlation between the ethnicity variable 'Chinese' with *SPM* and also with the

interaction variable 'Chinese _ SPM' were found. It can be seen from Table 4.10 that for the Form 6 sample, Chinese compared to other ethnic groups have a much lower *SPM* aggregate (16.41 for Chinese compared to 20.12 for Indians and 26.09 for Bumiputera) and this probably explains the negative correlation between the variables. As *SPM* aggregate is an important determinant of career aspirations with relatively high coefficients, the 'SPM' variable and the 'Chinese_*SPM*' interaction term are retained in the models to see its influence on *SPM*. The inclusion of this variable has however rendered the variable 'Chinese' to be insignificant.

Correlation between the variable 'Inc1000' with the interaction term 'Indians_Inc1000' for the Form 6 career preference model.

For those with income RM0-1000 in the Form 6 sample, only a very low proportion of 5.1% are Indians. Hence, this will cause the interaction term 'Indians_Inc1000' to be highly correlated with the variable 'Indian' compared to other ethnic groups. Hence, the interaction term is removed from the Form 6 career preference model.

Correlation between mother's highest level of education and the interaction term mother's highest level of education * female for Form 6 career preference

From the Form 6 sample, mother's highest level of education is also found to be highly correlated with the interaction term 'Motheredu_female'. The interaction term is therefore removed from the Form 6 career preference model.

6.5 Significant Self Concept and Interaction Variables

After removing variables to reduce the multicollinearity effect, the regression models were re-estimated. Variables which remained insignificant at the 5% level are removed from the models.

Table 6.7 shows the models of career aspiration with all self concept variables and interaction terms that are significant at the 5% or close to 5% levels. It also shows a

reduced multicollinearity effect with high TOLs and low VIFs for the independent variables.

Table 6.7: Models Showing All Significant Self Concept Variables With Reduced Multicollinearity Effect

ificant variables for the Form 5 career preference model					Significant variables for the Form 6 career preference model				
iable	Coefficient	p value for t tests	TOL	VIF	Variable	Coefficient	p value for t tests	TOL	VIF
nale	2.464	0.000	0.941	1.063	Female	3.273	0.000	0.932	1.073
ians	3.395	0.000	0.916	1.091	Indians	3.660	0.000	0.905	1.105
ly size	0.227	0.000	0.832	1.202	pinterest	0.899	0.001	0.894	1.119
c work	1.111	0.002	0.910	1.099	Motheredu	2.431	0.001	0.925	1.081
erest	0.566	0.011	0.835	1.198	*SPM*	-0.138	0.000	0.706	1.416
ionship	1.280	0.000	0.924	1.082	Furedu	2.331	0.000	0.923	1.083
ieredu	2.384	0.000	0.838	1.194	Science	3.689	0.000	0.731	1.369
RP	-0.197	0.000	0.459	2.179	Scholarship	-1.498	0.023	0.943	1.061
redu	2.266	0.000	0.891	1.122	Chinese_*SPM*	-0.109	0.000	0.752	1.331
ersity	3.157	0.000	0.825	1.212					
ence	2.915	0.000	0.509	1.965					
larship	1.796	0.002	0.961	1.041					
nsibility	0.921	0.003	0.922	1.084					
se_*SRP*	-0.051	0.005	0.806	1.241					
ificant variables for the Form 5 career expectation model					**Significant variables for the Form 6 career expectation model**				
iable	Coefficient	p value for t test	TOL	VIF	Variable	Coefficient	p value for t test	TOL	VIF
e	3.131	0.000	0.952	1.051	Female	3.090	0.000	0.695	1.438
s	4.898	0.000	0.937	1.067	Indians	4.012	0.000	0.905	1.105
work	0.983	0.006	0.912	1.097	Check work	1.233	0.045	0.975	1.026
est	0.694	0.002	0.827	1.210	Motheredu	4.925	0.000	0.898	1.140
onship	0.783	0.012	0.922	1.084	Inc1000	-1.821	0.000	0.754	1.325
redu	3.392	0.000	0.896	1.116	*SPM*	-0.106	0.005	0.682	1.465
	-0.227	0.000	0.479	2.086	Furedu	2.038	0.000	0.937	1.068
1	1.071	0.001	0.899	1.112	Science	3.073	0.000	0.723	1.383
rsity	2.216	0.000	0.831	1.203	Responsibility	1.836	0.001	0.982	1.019
e	2.768	0.000	0.515	1.943	Chinese_*SPM*	0.006	0.048	0.735	1.361
nsibility	1.082	0.001	0.924	1.082	Female_boysjob	-1.386	0.019	0.721	1.386
se_*SRP*	0.065	0.000	0.837	1.195	Poccustat	0.035	0.048	0.856	1.468
sts	0.062	0.000	0.943	1.013					
)0	1.774	0.003	0.865	1.156					

6.6. Heteroscedasticity

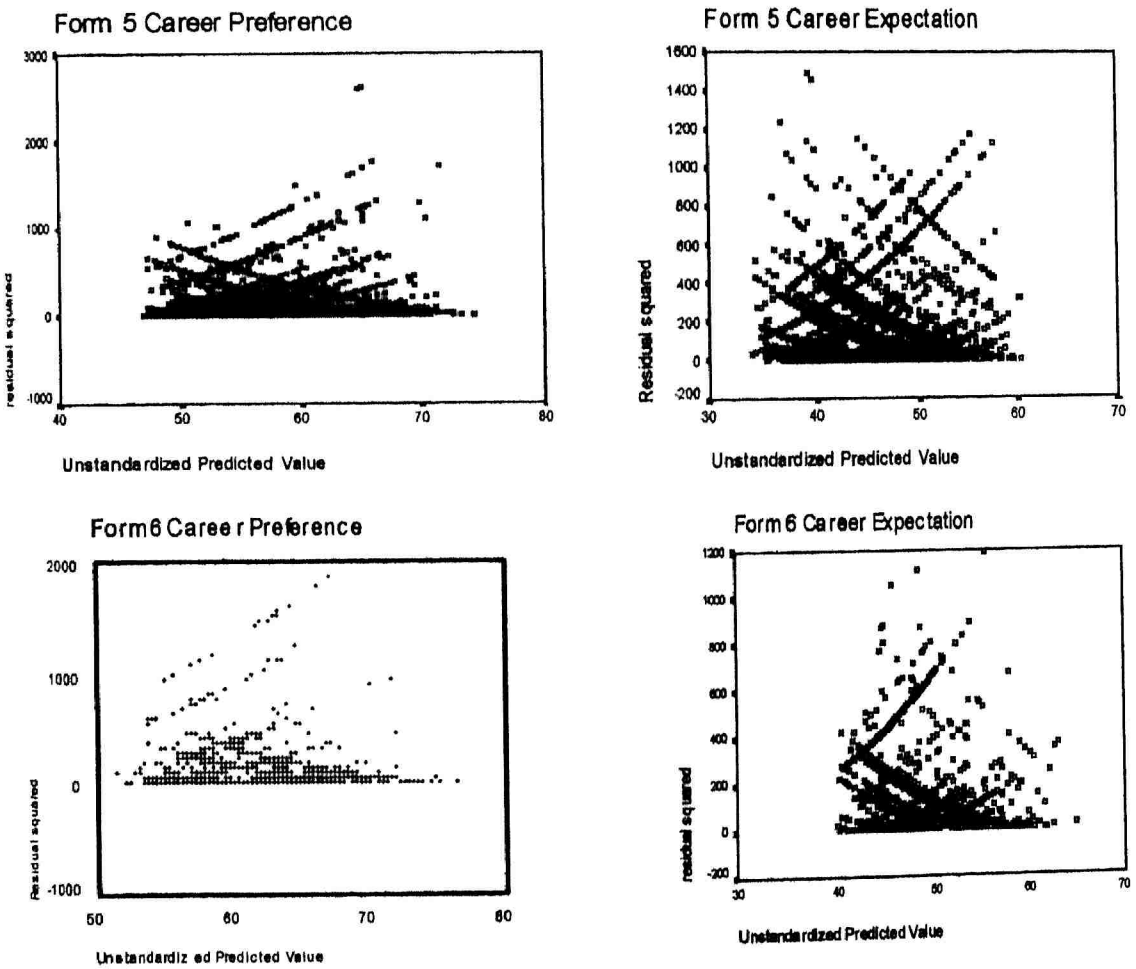
This section deals with the problem of heteroscedasticity (refer to Section 3.5.2 (c) for explanation and method used for detection and remedy of heteroscedasticity).

Detection of heteroscedasticity

1. After estimating the models in Table 6.7, with all significant self concept and interaction variables, the estimated residual squared ($\hat{\mu}_i^2$) is obtained.

2. $\hat{\mu}_i^2$ is then plotted against the estimated career aspiration ($\hat{Y}_i$) obtained from the models in Table 6.7 (see Figure 6.2).

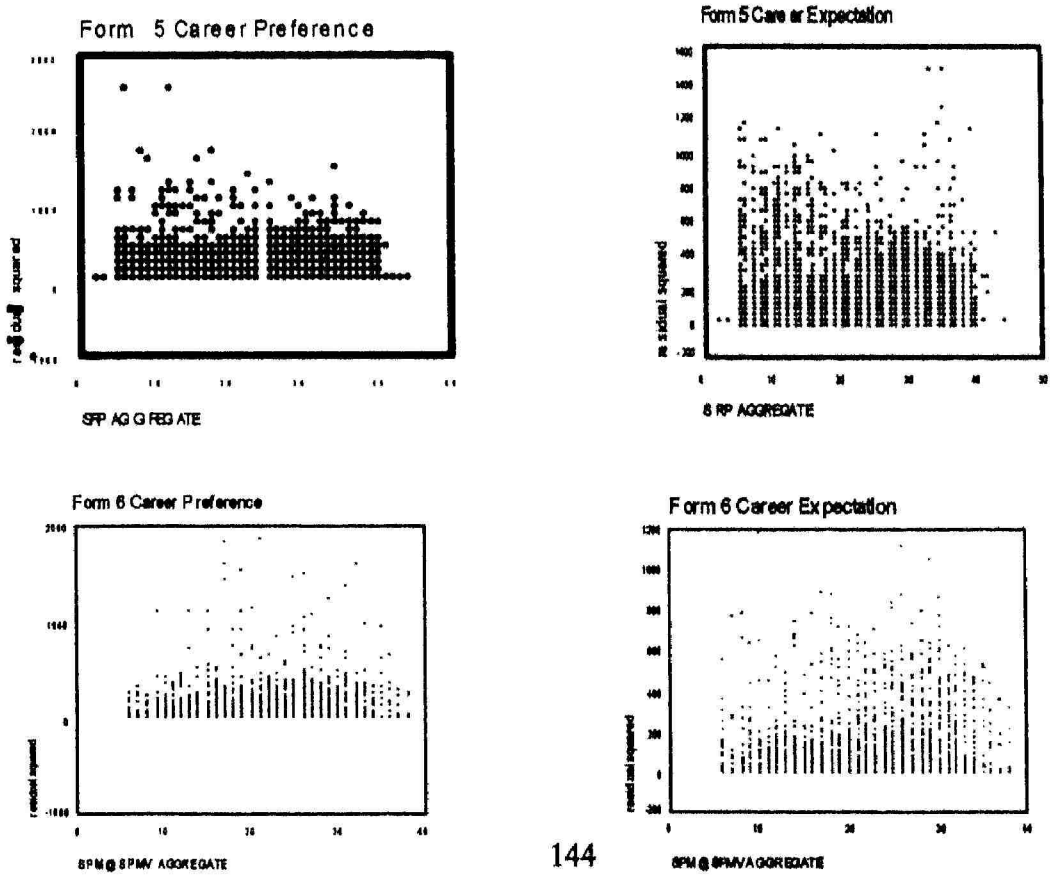
Figure 6.2: Plots of the Estimated Residual Squared Against The Predicted Values



The plots in Figure 6.2 suggest that there may be some pattern between the estimated residual squared and the estimated career aspiration for all models. This indicates that heteroscedasticity may exist.

3. The existence of heteroscedasticity could be due to the influence of some of the academic variables where respondents with better academic results or those who intend to further their education would probably have more scope in their career choice as they would be able to choose high prestige as well as lower prestige careers. This would increase the variability in the prestige scores of career aspiration for these respondents. The intention to further one's studies is a dummy variable and not much variability was found between the intention to further one's studies and the intention not to further one's studies. The academic achievement variables are however found to show some pattern with the estimated residual squared and this is depicted in Figure 6.3.

Figure 6.3: Plots of the Estimated Residual Squared Versus Academic Achievement



4. A Park Test (see Section 3.6.2 for methodology) then formalises the graphical method above by suggesting whether the variance in the distribution is some function of *SRP* or *SPM*. The following equation is generated:

$$\ln \hat{\mu}_i^2 = \alpha + \beta \ln X_i + v_i$$

where X is the variable *SRP*, α is the constant, β is the coefficient for *SRP* and $\hat{\mu}_i^2$ is the estimated residual squared.

A t test is then used to test the coefficient, β. The results of the above equation is shown in Table 6.8. The results show that the β is significant at the 5% level for all situations indicating that there is a significant relationship between the two variables and that heteroscedasticity may exist. For Form 5 career preference though, the positive relationship is not as expected as it is expected that a negative relationship exists between prior academic achievement and the variance of the residuals.

5) A Spearmen rank correlation test is also carried out to see if there is any correlation between the estimated residual and prior academic achievement (see Section 3.6.2 for methodology). The results are shown in Table 6.8. The correlation coefficients which are significant except for the Form 6 career expectation situation, indicates that there is some correlation between the two variables and that heteroscedasticity may exist.

Table 6.8: Results Of Park Test And Spearman's Rank Correlation Test

	Form 5 Career Preference	Form 5 Career Expectation	Form 6 Career Preference	Form 6 Career Expectation
ırk Test)efficient for *SRP or SPM*, β gnificance level using t test)	0.119 (0.022)	-0.333 (0.000)	-0.583 (0.000)	-0.329 (0.005)
)earman's Rank Correlation Test)earman Rank Correlation Coefficient :tween *SRP* and the estimated residual ignificance level using t test)	0.056 (0.000)	-0.038 (0.003)	-0.09 (0.000)	-0.033 (0.115)

6) Weighted Estimation

To remedy the heteroscedasticity effect that may exist in the models, a weighted estimation procedure is used where the coefficients of the regression models are calculated using the weighted least square method. The prior academic results, *SRP* or *SPM* is used as the weight variable and the best possible transformation which fits the data is obtained using the weight estimation procedure obtained from the SPSS computer programme.

The results for all the models show that it does not differ much from the models obtained in Table 6.7 and the decision whether to accept or reject a variable does not change from that obtained using the results in Table 6.7. This indicates that the heteroscedasticity problem caused by the prior academic achievement variables is not serious. Thus the results in Table 6.7 is retained as the final results showing the influence of self concept variables on career aspirations.

6.7 Diagnostics

6.7.1 Outliers

After the estimation of the models in Table 6.7, any observations that are considered outliers are identified. Outliers are identified using the studentized residual (see Section 3.8.1 for more details). The rule of thumb as stated in Hair et al. (1998) is that observations that have studentized residuals greater than ± 2 can be considered as outliers.

The number of observations considered outliers for each of the models are 260, 291, 97 and 99 observations for the Form 5 career preference, Form 5 career expectation, Form 6 career preference and Form 6 career expectation models respectively. These observations are then temporarily deleted and the regression models from Table 6.7 are re-estimated without the influence of the outliers. This is to examine whether the outliers play an important role in the estimation of the coefficients of the models and to determine

which variables are most influenced by these observations. Table 6.9 displays the coefficients of the models without the outliers.

Results in Table 6.9 when compared with Table 6.7 (models without removing outliers) show that the removal of outliers do not seem to have much of an influence on the regression models as the results do not change much. Almost all the independent variables that significantly influenced career aspiration before removing the outliers remained as significant variables even after removing the outliers. Only for the Form 6 career expectation model it was found that the interaction terms, 'Chinese_*SPM*' and 'female_boysjob' plus the variable 'check work' has become insignificant at the 5% level after removing the outliers. This indicates that these variables have a significant influence on Form 6 career aspiration due to the influence of outliers.

6.7.2 Other Influential Observations

The DFBETA will be used as an indicator to identify influential observations. DFBETA, calculated as the change in the coefficient when the observation is deleted is the relative effect of an observation on each coefficient. DFBETA is chosen as the measure for identifying influential observations as the objective of this study is to determine the main variables influencing career aspiration. The DFBETA is an indication of whether a particular variable has a significant or insignificant influence on career aspirations mainly because of influential observations. The DFBETAs are calculated for the models in Table 6.7, that is for the models that were estimated before removing the outliers.

Section 3.8.2 gives the formula for calculating the threshold level as indicated by Hair et al. (1998). Observations that have DFBETA exceeding these threshold levels are considered as influential observations. Following this formula, the threshold levels of DFBETA are as in Table 6.10.

Table 6.9: All Significant Self concept And Interaction Variables After Removing Outliers

Significant variables for the Form 5 career preference model			Significant variables for the Form 6 career preference model		
Variable	Coefficient	p value for t tests	Variable	Coefficient	p value for t tests
male	1.796	0.000	Female	2.614	0.000
lians	3.355	0.000	Indians	4.077	0.000
mily size	0.201	0.000	pinterest	0.710	0.004
eck work	1.220	0.000	Motheredu	2.509	0.000
terest	0.469	0.020	*SPM*	-0.160	0.000
elationship	1.402	0.000	Furedu	2.349	0.000
otheredu	2.072	0.000	Science	3.734	0.000
P	-0.192	0.000	Scholarship	-1.568	0.008
redu	1.942	0.000	Chinese_*SPM*	-0.144	0.000
iversity	3.628	0.000			
ience	3.527	0.000			
holarship	1.622	0.002			
sponsibility	1.279	0.000			
inese_*SRP*	-0.096	0.000			
Significant variables for the Form 5 career expectation model			**Significant variables for the Form 6 career expectation model**		
Variable	**Coefficient**	**p value for t test**	**Variable**	**Coefficient**	**p value for t test**
male	3.110	0.000	Female	2.798	0.000
dians	5.418	0.000	Indians	4.154	0.000
heck work	1.101	0.001	Check work	0.836	0.126
interest	0.753	0.000	Motheredu	4.183	0.000
relationship	0.680	0.016	Inc1000	-1.533	0.001
dotheredu	3.081	0.000	*SPM*	-0.107	0.001
RP	-0.257	0.000	Furedu	2.831	0.000
furedu	1.306	0.000	Science	2.821	0.000
University	2.264	0.000	Responsibility	2.115	0.000
Science	2.875	0.000	Chinese_*SPM*	0.049	0.079
Responsibility	1.255	0.000	Female_boysjob	-0.856	0.102
Chinese_*SRP*	**0.081**	0.000	Poccustat	0.035	0.048
Poccusts	0.062	0.000			
Inc2000	1.774	0.003			

Table 6.10: Threshold Levels Of DFBETA

	Form 5 Career Preference	Form 6 Career Preference	Form 5 Career Expectation	Form 6 Career Expectation
DFBETA	±0.0265	±0.04	±0.0270	± 0.0452

Only DFBETA for coefficients of a few variables that are found to be important riables for all the models are examined. Hence observations exceeding the threshold vels of the DFBETA for the academic related variables, the gender variable and the riable for mother's level of education are identified. The number of observations ceeding the DFBETA threshold level for coefficients of each variable are called fluential observations for that variable. The variable with the most number of fluential observations are the variables 'Indians' and 'motheredu'. For each model, the ndians' variable has more than 60 observations which have a significant influence on its efficient when the observation is deleted. For each model, the 'motheredu' variable has bout 50 observations. The academic related variables and the gender variable have owever close to 0 of these influential observations influencing their coefficients.

This indicates that the fact that Indians and mother's highest level of education ave a significant influence on career aspiration could be mainly due to a few influential bservations. It was found that most of these influential observations were respondents vho had career aspirations that were either above 70 prestige points or below 40 prestige oints. However, when these observations are deleted and the models are re-estimated, he variables 'Indians' and 'motheredu' still have a significant influence on career spirations for both samples. It was found though, that the coefficients for these two ariables increases when these observations are removed. For example, it was found that hen the influential observations for the variable 'Indians' is removed and the Form 5 areer preference model is re-estimated, the coefficients for 'Indians' increases from 3.39 o 4.68. When the influential observations for the variable 'motheredu' is removed, the oefficient for 'motheredu' increases from 2.38 to 4.02.

6.8 Career Preference As A Determinant Of Career Expectation

When career preference is added to the models in Table 6.7 where career expectation is the dependent variable, the R^2 increases from 0.148 to 0.159 for the Form 5 sample and from 0.122 to 0.152 for the Form 6 sample (see Table 6.16). This shows that the explanatory power of the models increases by 7% for the Form 5 sample and 25% for the Form 6 sample with the inclusion of career preference. The coefficient for career preference is positive i.e. 0.09 for the Form 5 sample and 0.209 for the Form 6 sample. The coefficients and significance levels of the other independent variables in the models do not change much with the inclusion of this variable.

6.9 Perceived Work Values

Factor analysis, using the principle component method of extracting factors, is used to summarise perceived work values from a larger set of variables, to be subsequently used in the multivariate analysis.(see methodology in Section 3.9 of Chapter 3). The following are the results obtained for each step of the factor analysis on perceived work values.

6.9.1 Examining for Sufficient Correlation and Sampling Adequacy

Examining the correlation matrices

The correlation matrices are first examined to find variables that do not correlate highly (correlation coefficient less than 0.3, an approximate value, as stated in Hair et al., 1998) with any of the other variables. Four correlation matrices are examined, that is for each sample, one is examined for perceived work values providing job satisfaction and one for motivators and barricades for job satisfaction.

From the correlation matrix for perceived work values providing job satisfaction, it was found that the variable 'no supervision' is not highly correlated with any of the other variables for both the Form 5 and Form 6 samples. This variable is thus not included in the factor analysis but will be used separately as an independent variable in the regression analysis. It is renamed 'independence'. For the Form 6 sample, two other

variables are also excluded from the factor analysis that is 'opportunity to travel' and 'opportunity to supervise others'.

From the correlation matrices for perceived work values concerning motivators and barricades to working in rural areas, the work values 'jobs with higher responsibility' and 'more freedom' are found to not correlate highly with any of the other variables. These variables are thus not included in the factor analysis but will be used separately as independent variables in the regression analysis.

Kaiser-Meyer Olkin Measure Of Sampling Adequacy And Bartlett's Test Of Sphericity

Table 6.11 shows that the Kaiser-Meyer-Olkin measures for all is close to 0.8 (an approximate value to show sufficient inter-correlation, as stated in Hair et al., 1998). This indicates that there is sufficient inter-correlation among the perceived work value variables.

Table 6.11 also shows that the results of the Bartlett's tests are all significant at the 1% levels, concluding that there is sufficient non-zero correlation among the variables for all situations.

Table 6.11: Results Of Kaiser-Meyer Olkin Measure Of Sampling Adequacy And Bartlett's Test Of Sphericity

	Perceived work values for job satisfaction		**Perceived work values as motivators and barricades to working in rural areas**	
	Form 5	**Form 6**	**Form 5**	**Form 6**
Keiser-Meyer- Olkin measure of sampling adequacy	0.826	0.787	0.831	0.827
Bartlett's Test of Sphericity Chi square (significance)	17945.299 (0.000)	6816.639 (0.000)	18051.668 (0.000)	7402.127 (0.000)

6.9.2 Extraction Of Factors And Assignment of Factor Scores

For the analysis on work values for job satisfaction, seven factors were extracted for the Form 5 sample and five factors for the Form 6 sample. For the analysis on motivators or barricades of working in rural areas, two factors were extracted for the Form 5 sample and 3 factors were extracted for the Form 6 sample These factors are renamed by taking into consideration the variables loading heavily on each factor. The factors and their loadings are shown in Table 6.12a, 6.12b, 6.13a, 6.13b,6.14a and 6.14b.

These factors in terms of factor scores are then included in the models with self concept variables, interaction terms and career preference, to see if they have any influence on career aspirations.

6.9.3 Interpretation Of Factors

Perceived Work Values For Job Satisfaction

a) Talent and Creativity

The 'Talent and Creativity' work value factor is obtained for both the Form 5 and Form 6 sample. The characteristics that mainly constitute this factor are the fact that respondents look for work that enable them to use their creativity. For the Form 5 sample, the respondents who value these characteristics in a job, also value a job that will enable them to use the skills that they have learnt . For the Form 6 sample, however, this value does not correlate highly with the Talent and Creativity factor but instead it is found that for the Form 6 respondents, those who value creativity and talent are ones who look for jobs that are interesting.

b) Knowledge

The Knowledge factor is obtained for both the Form 5 and Form 6 sample. This factor relates to the fact that the respondents choose work that will help them to improve their knowledge such as to further their studies and gain theoretical knowledge on a subject or to improve their competence and use skills learnt to improve their practical knowledge.

) Altruism

The definition of 'altruism' according to the Oxford Dictionary is 'principle of onsidering the welfare of others and happiness of others before one's self. Following this lefinition, the Altruism factor comprises of the characteristics of work that will provide espondents the opportunity to help the community and use their skills learnt. This factor s obtained for both the Form 5 and Form 6 sample.

d) Security

Security deals with issues that will provide job security. Values that load highly for this factor are mainly good income and secure future. This work value factor is obtained for both the samples.

e) Family concerns

Family concerns contains characteristics of a job that will enable the respondent to dedicate more time for family. The values that load highly on this factor are 'opportunity to spend time with family' and 'proximity to spouse's work place'. This factor is obtained for both samples.

f) Interesting work

For the Form 5 sample, the factor 'interesting work' contains the characteristics that the respondents value work that is interesting. It correlates highly with the 'opportunity for travel' and 'use skills learnt' values. This indicates that jobs that enable the respondent to travel and jobs that enable them to use the skills learnt are jobs that are considered interesting. For the Form 6 sample, the value 'interesting work' seems to correlate highly with jobs that enable one to use their talent and creativity and is therefore not considered as a separate factor.

Leadership

This factor obtained for the Form 5 sample, consists of work that will enable one to supervise others. It is also highly correlated with the 'opportunity to travel' value indicating that respondents who value jobs that enable them to assume leadership roles

also ones who value jobs that will enable them to travel. This is probably due to the t that leaders in an organisation usually have vast opportunities to travel due to their function.

For the Form 6 sample, the 'leadership' variable and the 'opportunity to travel' iable are treated as separate variables which are not included in the factor analysis as y do not correlate highly with any other work value variables.

otivators and Barricades To Working In Rural Areas

Surroundings (Extrinsic values)

Extrinsic values consist of external rewards and the values that load highly on this ictor are 'financial incentives' and 'good promotion opportunities' as motivators and low promotion opportunities' as a barricade. For the Form 5 sample however, 'slow romotion opportunities' do not correlate highly with 'good promotion opportunities' lthough it does for the Form 6 sample. This indicates that for the Form 6 sample, those who are concerned about high income and good promotion when taking a job in a rural rea, will also be discouraged from doing so if the promotion opportunities are slow.

Surroundings (Intrinsic values in terms of available facilities)

This work value factor is related to conditions at the work place which motivate discourage a person from working in rural areas. For the Form 6 sample, this factor omprises of three main characteristics that is, the 'availability of electricity and water', roblems in communication' and 'poor working conditions'. For the Form 5 sample, vailability of electricity and water' and 'problems in communication' load highly on this ork value factor.

) Surroundings (Intrinsic values in terms of social benefits)

This work value factor is related to social issues such as entertainment, friends nd family. For the Form 6 sample, the characteristics that load highly on this factor are eparation from friends and relatives', 'dull social life', 'family problems' plus two non-ocial issues such as 'slow promotion' and 'no opportunity for improvement'. For the

Table 6.12a: Perceived Work Value Factors For Job Satisfaction And Loadings Of Each Variable On The Factors

Variables	Perceived Work Value Factors						
	Talent and Creativity	Intellectual Stimulation	Altruism	Security	Family Concerns	Leadership and Travelling	Interesting Work
Interesting Work	0.267	0.122	-0.02	0.222	0.183	0.01	[redacted]
Using Special Talents	[redacted]	0.05	0.09	.09	0.03	0.08	0.205
Creative Work		0.102	0.121	0.05	0.09	0.108	0.057
Opportunity for Further Studies	0.052	[redacted]	0.07	0.03	0.082	0.086	0.021
Improving Competence	0.186		0.296	0.228	0.013	0.083	0.164
Able to help the Community	0.148	0.292	[redacted]	0.117	0.018	-0.016	-0.125
Work with People	0.09	0.03	-0.01	0.08	0.133	0.173	0.092
Good Income	0.05	0.03	0.103	[redacted]	0.176	0.134	0.231
Opportunity for Travel	0.09	0.1	0.08	0.05	0.063	[redacted]	[redacted]
Supervise Others	0.129	0.08	0.143	0.114	0.123	0.03	-0.159
Secure Future	0.116	0.162	0.103	[redacted]	0.111	0.110	-0.025
Time with Family	0.08	0.098	0.125	0.147	[redacted]	0.009	0.148
Use Skills Learnt	[redacted]	[redacted]	0.03	0.111	0.305	0.051	-0.382
Proximity to Spouses Work Place	-0.07	0.014		0.105			0.0006

Note: Highlighted are the loadings for variables that load heavily on a factor

Table 6.12b: Total Variance Explained

Component	Rotation Sums of Squared Loadings for the Form 5 sample		
	Total	% of Variance	Cumulative %
Talent and Creativity	1.655	11.823	11.823
Intellectual Stimulation	1.503	10.733	22.555
Altruism	1.501	10.723	33.278
Security	1.487	10.622	43.900
Family Concerns	1.448	10.345	54.246
Leadership & Travelling	1.268	9.056	63.301
Interesting Work	1.064	7.600	70.902

Table 6.13a: Perceived Work Value Factors For Job Satisfaction And Loadings Of Each Variable On The Factors

	Perceived Work Value Factors				
	Security	**Talent and Creativity**	**Intellectual Stimulation**	**Altruism**	**Family Concerns**
Interesting Work	[redacted]	[redacted]	-0.097	0.086	0.044
Using Special Talents	0.097	[redacted]	0.106	0.064	0.052
Creative Work	0.002		0.216	0.114	0.039
Opportunity for Further Studies	0.182	0.07	[redacted]	0.071	0.051
Improving Competence	0.238	0.198		0.245	0.022
Able to help the Community	0.062	0.101	0.260	[redacted]	0.012
Work with People	0.072	0.098	0.058		0.114
Good Income	[redacted]	0.015	0.139	0.021	0.191
Secure Future		0.031	0.314	0.103	0.173
Time with Family	0.226	0.062	0.118	0.048	[redacted]
Use Skill Learnt	-0.196	0.263	[redacted]	0.196	
Proximity to Spouses Work Place	0.150	-0.002	-0.021	0.042	

Note: Highlighted are the loadings for variables that load heavily on a factor

Table 6.13b: Total Variance Explained

Component	**Rotation Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**
Security	1.694	14.117	14.117
Talent and Creativity	1.688	14.063	28.180
Intellectual Stimulation	1.640	13.666	41.846
Altruism	1.595	13.290	55.135
Family Concerns	1.539	12.824	67.960

ble 6.14a: Perceived Work Value Factors As Motivators And Barricades To Working In Rural Areas And Loadings Of Each Variable On The Factors

Variables	Perceived Work Value Factors					
	Form 5			Form 6		
	Surroundings (Extrinsic Values)	Surroundings (Intrinsic Values in terms of Available facilities)	Surroundings (Intrinsic Values in terms of Social Benefits)	Surroundings (Extrinsic Values)	Surroundings (Intrinsic Values in terms of Available facilities)	Surroundings (Intrinsic Values in terms of Social Benefits)
Financial Incentives	0.682	0.03	0.502	0.799	0.244	0.056
Good Promotion Opportunities	0.647	0.148	0.557	0.855	0.121	.159
No Water & Electricity Supply	-0.042	-0.606	0.607	0.129	0.851	0.111
Problems in Communication	-2.31	-0.577	0.641	0.169	0.836	0.178
Poor Working Conditions	-0.184	-0.165	0.647	0.213	0.512	0.416
Separation from Friends and Relatives	-0.331	0.122	0.604	-0.02	0.324	0.656
Dull Social Life	-0.291	0.276	0.635	0.142	0.192	0.662
No Opportunity for Improvement	-0.182	0.284	0.617	0.281	0.088	0.624
Slow Promotion	0.1	0.326	0.671	0.560	0.067	0.543
Family Problems	-0.211	0.203	0.526	0.053	0.565	0.699

Note: Highlighted are the loadings for variables that load heavily on a factor (loadings are approximately ±0.3)

Table 6.14b: Total Variance Explained

Component	Form 5			Form 6		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Surroundings (Extrinsic benefits)	1.792	17.921	17.921	2.284	22.836	22.836
Surroundings (Intrinsic Values in terms of Available facilities)	2.445	24.447	42.368	1.917	19.173	42.009
Surroundings (Intrinsic Values in terms of Social Benefits)	1.672	16.716	59.084	2.284	22.836	64.845

Table 6.15: Results Of The Final Regression Models

Independent Variables	Dependent Variables	Coefficient	t value (p value)
raphic Variables			
	Form 5 Career Preference	2.348	7.493 (0.000)
	Form 6 Career Preference	3.112	7.395 (0.000)
	Form 5 Career Expectation	2.672	8.440 (0.000)
	Form 6 Career Expectation	2.515	4.262 (0.000)
	Form 5 Career Preference	3.535	5.868 (0.000)
	Form 6 Career Preference	3.312	4.219 (0.000)
	Form 5 Career Expectation	4.582	7.416 (0.000)
	Form 6 Career Expectation	3.731	3.712 (0.000)
e	Form 5 Career Preference	-	-
	Form 6 Career Preference	-	-
	Form 5 Career Expectation	-	-
	Form 6 Career Expectation	-	-
y Characteristics			
y size	Form 5 Career Preference	0.225	3.510 (0.000)
	Form 6 Career Preference		
	Form 5 Career Expectation		
	Form 6 Career Expectation		
est	Form 5 Career Preference		
	Form 6 Career Preference	0.729	2.518 (0.012)
	Form 5 Career Expectation	0.628	2.636 (0.008)
	Form 6 Career Expectation		
k work	Form 5 Career Preference	1.135	3.102 (0.002)
	Form 6 Career Preference		
	Form 5 Career Expectation	0.885	2.366 (0.018)
	Form 6 Career Expectation	1.376	2.112 (0.035)
tionship	Form 5 Career Preference	1.306	4.067 (0.000)
	Form 6 Career Preference		
	Form 5 Career Expectation	0.755	2.293 (0.022)
	Form 6 Career Expectation		
larship	Form 5 Career Preference	1.816	3.015 (0.003)
	Form 6 Career Preference	-1.747	-2.611 (0.009)
	Form 5 Career Expectation		
	Form 6 Career Expectation		
io-economic Status			
heredu	Form 5 Career Preference	2.562	4.950 (0.000)
	Form 6 Career Preference	2.510	3.363 (0.001)
	Form 5 Career Expectation	2.185	4.018 (0.000)
	Form 6 Career Expectation	4.187	4.590 (0.000)
custat	Form 5 Career Preference		
	Form 6 Career Preference		
	Form 5 Career Expectation	0.061	5.473 (0.000)
	Form 6 Career Expectation	0.035	1.993 (0.046)
2000 (for Form 5 sample)	Form 5 Career Preference		
1000 (for Form 6 sample)	Form 6 Career Preference		
	Form 5 Career Expectation	1.774	3.006 (0.003)
	Form 6 Career Expectation	-1.755	-3.131 (0.002)

: Explanations for the self concept variables are as in Table 6.1

Table 6.15: Results Of The Final Regression Models (continued)

Independent Variable	Dependent Variables	Coefficient	t value (p value)
demic Related Variables			
r Academic Achievement P or *SPM*)	Form 5 Career Preference Form 6 Career Preference Form 5 Career Expectation Form 6 Career Expectation	-0.199 -0.160 -0.193 -0.101	-8.484 (0.000) -4.863 (0.000) -8.097 (0.000) -2.513 (0.012)
edu	Form 5 Career Preference Form 6 Career Preference Form 5 Career Expectation Form 6 Career Expectation	2.189 2.149 0.931 1.410	6.775 (0.000) 5.172 (0.000) 2.828 (0.005) 2.803 (0.005)
ence	Form 5 Career Preference Form 6 Career Preference Form 5 Career Expectation Form 6 Career Expectation	2.919 3.637 2.449 2.190	6.438 (0.000) 6.644 (0.000) 5.355 (0.000) 3.265 (0.000)
sponsibility	Form 5 Career Preference Form 6 Career Preference Form 5 Career Expectation Form 6 Career Expectation	0.803 0.946 1.606	2.435 (0.015) 2.831 (0.005) 2.675 (0.008)
iversity	Form 5 Career Preference Form 6 Career Preference Form 5 Career Expectation Form 6 Career Expectation	3.117 1.934 	9.343 (0.000) 5.703 (0.000)
teraction Terms			
RP_Chinese	Form 5 Career Preference	-0.05	-2.644 (0.008)
PM_Chinese	Form 6 Career Preference	-0.117	-4.185 (0.000)
RP_Chinese	Form 5 Career Expectation	0.095	2.839 (0.005)
PM_Chinese emale_boysjob	Form 6 Career Expectation	0.128 -1.737	4.004 (0.000) -2.709 (0.007)
erceived Work Values			
ltruism nowledge	Form 5 Career Preference	-0.433 -0.465	-2.803 (0.005) -2.966 (0.000)
ltruism nowledge	Form 6 Career Preference	-0.496 -0.658	-2.410 (0.016) -3.197 (0.001)
urroundings - Extrinsic Values urroundings - Intrinsic Values (availability of facilities)	Form 6 Career Expectation	0.475 0.548	1.971 (0.049) 2.230 (0.026)
Career Preference As Independent Variable			
Dependent Variable: Form 5 Career Expectation Dependent Variable: Form 6 Career Expectation		0.088 0.195	6.682 0.000) 8.026 (0.000)

lote: Explanations for the self concept variables are as in Table 6.1

6.10 Interpretation Of The Results

The following interprets the results shown in Table 6.15. These results are for the models where the independent variables consist of self concept variables, interaction terms, career preference (when the dependent variable is career expectation) and perceived work value variables. All these variables are significant at the 5% or close to 5% levels.

6.10.1 Demographic Variables

a) Gender

The coefficients show a positive influence on career preference and career expectation for the variable 'female' This positive influence is found for both samples. This shows that by holding all other variables constant, female respondents seem to prefer and expect higher prestige careers compared to male respondents.

For Form 6 career expectation, the negative coefficient for the interaction term 'female * boysjob' and the fact that the coefficient for 'female' decreases from 2.515 to 1.706 when this term is removed, shows that the positive effect female respondents have on career expectation is reduced due to the interaction effect. This may indicate that Form 6 females who believe that males have better job opportunities tend to have lower career expectations compared to females who believe in gender equality in job opportunities. However, this relationship does not apply for the career expectations of Form 5 respondents.

b) Ethnicity

The positive coefficients for Indians show that Indians have significantly higher career preferences and expectations compared to the *Bumiputera* respondents. It is also possible to say that Indians have a higher career aspirational level compared to the

Chinese respondents as the t values for the coefficients for Chinese show that the career aspirations for Chinese is not significantly different from *Bumiputera* respondents.

Previous analysis, without taking into consideration the interaction of Chinese with *SRP* or *SPM* shows that Chinese have significantly lower career preferences compared to *Bumiputera* respondents but significantly higher career expectations compared to the *Bumiputera* respondents (refer to Model 2 of Tables 6.2, 6.3, 6.4 and 6.5). However, as the Chinese variable is highly correlated with prior academic achievement, the inclusion of '*SRP**Chinese or '*SPM**Chinese' causes the 'Chinese' variable to be insignificant. The negative coefficient for the interaction terms influencing career preference in both samples shows that Chinese with better grades (lower *SPM* aggregate) have higher career preferences than *Bumiputera* respondents but Chinese with worse grades have lower career preferences than *Bumiputera* respondents. The positive coefficients of the interaction terms 'Chinese **SRP* and 'Chinese **SPM*' influencing career expectation show that for both samples, although Chinese seem to have higher career expectations than the *Bumiputera* respondents, this could be mainly due to their good academic grades.

c) Locality

There does not seem to be any significant difference between the career aspirations of respondents living in large towns and those living in medium sized towns and rural areas.

6.10.2. Family Characteristics

a) Family Size and birth order

The size of the respondent's family significantly influences only Form 5 career preference in a positive manner. This means that for the Form 5 sample, respondents from families with five or more children have a higher career preferences compared to

ıose from smaller sized families. This finding is contrary to the expectation that espondents from smaller sized families are suppose to have higher career aspirations han respondents from larger sized families. Birth order does not have a significant nfluence on career aspirations of both sample.

c) Parental Interest

Parental interest proxied by the sum of 'very often' for questions on parental expectation and interest, significantly influences Form 6 career preference and Form 5 career expectation. When the individual aspects of parental interest were examined, it was found that only the fact that parents' check their children's homework very often seem to have some positive influence on career aspirations in the sense that it positively influences all except the career preferences of Form 6 respondents.

d) Relationship With Parents And Scholarship

The coefficients for parental relationship show that a very good relationship with parents positively influences the career aspirations of the Form 5 sample but not the career aspirations of the Form 6 respondents.

For the variable 'scholarship', findings show that the fact that the respondents' education is financed by scholarship or loans does not have much influence on career expectations of both samples but has some influence on career preference.

6.10.3 Socio-economic Status

a) Mother's Highest Level of Education

Mother's highest level of education significantly influences career aspirations in a positive manner. This indicates that those whose parents level of education is high seem to have higher career aspirations compared to others

b) Parents' Occupational Status

Parents' occupational status significantly influences the career expectations of both samples but does not have a significant influence on the career preference of the samples. The small value for the coefficients of 0.061 for the Form 5 sample and 0.035 for the Form 6 sample shows a slight positive influence indicating that the higher the occupational status of parents, the higher the career expectations.

c) Parents' Income

Parents' income has a significant positive influence on the career expectation for both samples but does not significantly influence the career preferences of both samples.

6.10.4. Academic Related Influence

a) Prior Academic Achievement

Prior academic achievement shows a significant influence on aspirations for both samples. The negative sign indicates a positive influence where better results (lower *SRP* or *SPM* aggregate) lead to higher career aspirations among the respondents. For both samples, prior academic achievement also interacts with the ethnic variable 'Chinese' causing the differences in career aspirations among the *Bumiputera* and Chinese respondents to be insignificant.

b) Stream of Study

The variable 'Science' is used to proxi the influence of stream of study on career aspirations. This variable significantly influences career aspirations for both samples. The positive sign points to the fact that after controlling for other factors, respondents from the Science stream have higher career aspirations compared to those from the Arts and other streams of study. It is found that the removal of the prior academic variable of *SRP* and *SPM* causes the coefficient for the Science stream to increase. For Form 5 career preference, it increases from 2.919 to 5.313; for Form 5 career expectation from 2.449 to

4.649, for Form 6 career preference from 3.637 to 4.685 and for Form 6 career expectation it increases from 2.19 to 2.778. This shows that prior academic achievement has a mediating influence on the relationship between 'Science' and career aspirations indicating that a proportion of the positive influence between Science and career aspiration is due to the fact that a higher proportion of students who performed better academically entered the Science stream. This increase seems to be greater for the Form 5 sample compared to the Form 6 sample. However, 'Science' also has a direct positive influence on career aspirations.

c) School Leaving Plans

The respondents decision to further their education immediately instead of working immediately or instead of working for a while before continuing one's education, has a positive influence on career aspirations for both samples. For both samples, it has a slightly stronger influence on career preference compared to career expectation.

An additional variable positively influencing the Form 5 sample is the variable 'university' which is a proxi for the respondent's decision to further their education to the tertiary level and not to stop after Form 5 or continue only up to Form 6 or A-Levels. This variable does not significantly influence the Form 6 sample.

d) Responsibility

The fact that the respondent held at least one position of responsibility at school has a significant positive influence on career aspirations for all except Form 6 career preference.

6.10.5.Career Preference As An Independent Variable

Career preference projects a significant positive influence on career expectation. The higher coefficient of career preference for the Form 6 career expectation model compared to the Form 5 model also shows that it has stronger influence on the Form 6 sample.

6.10.6. Perceived Work Values

Perceived work values have very little influence on career aspirations. When all significant work values are included into the model, it does not increase the R^2 for the models for the Form 5 sample and increases the R^2 for the Form 6 sample by less than 1% (see Table 6.16).

All the significant coefficients for work values that are perceived to provide job satisfaction have negative signs. This shows that the smaller the factor scores, the higher the career aspirations. Work value factors with smaller factor scores are considered more important than those with higher factor scores. This is because the work value variables were originally coded as '1' for very important, '2' for important, '3' for not important and '4' for not important at all. Hence, the negative signs for the coefficients indicates a positive influence of perceived work values on career aspirations whereby those who consider a particular work value as an important aspect in providing job satisfaction (smaller factor scores for the work value variables), have higher career aspirations and vice versa. For the significant work values relating to motivators or barricades to working in rural areas, all the coefficients are positive. This indicates that respondents who consider these work values as important motivators or barricades to working in rural areas have lower career aspirations.

Perceived work values relating to job satisfaction that seem to depict some significant influence on career aspirations are work that enables the respondent to increase their knowledge (knowledge) and work that enables one to contribute to the welfare of others (altruism). These two variables significantly influences the Form 5 and Form 6 career preference. This shows that many respondents who have high career preference are ones who place importance on the fact that a particular job should enable them to help others and enable them to gain knowledge. The career expectation of both samples are not influenced at all by any of the work value variables that provide job satisfaction.

Motivators and barricades to working in rural areas have a significant influence on only Form 6 career expectation. Its positive coefficient indicates that Form 6

respondents who do not consider extrinsic rewards or intrinsic rewards in terms of facilities available, as an important push factor for working in rural areas have higher career expectations.

6.11 Comparison Between Career Preference and Career Expectation

Both components of career aspiration are influenced by demographic variables of gender and ethnicity. Females have higher career aspirations than males and Indians have higher career aspirations than other ethnic groups for both samples. For the difference between Chinese and *Bumiputera* respondents' career aspirations, a slight difference can be observed between career preference and career expectation for both samples. Before the interaction term of Chinese with prior academic achievement was included in the model, the career preferences of Chinese was found to be higher than *Bumiputera* respondents and their career expectations were lower than the *Bumiputera* respondents. However, when the interaction term is added to the model, its coefficients for career preference in both samples are negative which reduces the effect of Chinese having higher career preferences than *Bumiputera* respondents and is positive for career expectation which increases the effect of Chinese on career expectations compared to *Bumiputera* respondents. Basically the same conclusion is reached in the end where similar academic results causes the differences in career preferences and career expectations between Chinese and *Bumiputera* respondents to be insignificant. As for locality of respondents, the fact that the respondents grew up in a large towns does not indicate that they have higher career preferences and expectations compared to those from small towns and rural areas.

For family characteristics, family size and birth order do not have a significant negative influence on both career aspiration components. Parental interest in terms of the fact that parents' check the respondent's homework very often has significant influence on career expectation of Form 6 respondents but does not significantly influence their career preference. This variable however influences both career preference and career expectation for the Form 5 sample. The Form 6 career preference and the Form 5 career

expectation are also influenced by parental influence in terms of the sum of responses to questions related to parental interest.

Socio-economic variables do not seem to influence career preference at all except for mother's education, as a proxi for parents'. educational background. Mother's educational level influences career preferences and expectations for both samples. Occupational status and income of parents significantly influences only career expectations and not career preferences of both samples

Academic factors such as prior academic results, school leaving plans and stream of study significantly influences both career preference and career expectation in a similar manner. Those who have achieved good academic results, have intentions to further their studies immediately, especially those who wish to further their education up to the tertiary level and those who are from the science stream, have higher career preferences and expectations for both samples.

6.12 Comparison between the Form 5 and Form 6 samples

For demographic variables, the gender and Indian variables exert similar influences on both samples.

The distinction between the Form 5 and Form 6 respondents preferences can also be observed for the variable 'prelship'. A very good relationship with parents seem to lead to higher career preferences among Form 5 respondents but this is not observed for the Form 6 respondents.

Not much difference is observed for the influence of socio-economic status variables on career aspiration between Form 5 and Form 6 sample

In terms of academic related variables too, the influence on career aspiration seems to be similar for the Form 5 and Form 6 sample. It can be observed however, that Form 5 respondents who intend to obtain a tertiary education and not to stop at just a Form 5 or a Form 6 or A-Levels education seem to possess higher career aspirations but this is not observed for the Form 6 sample.

Career preference, which is seen to influence career expectations, seems to have a stronger influence on the Form 6 sample with a coefficient of 0.195, compared to the Form 5 sample with a coefficient of 0.088.

6.13. Explanatory Power Of The Models

All the models have an R^2 of less than 20%. This means that all the self concept variables, the interaction terms, career preference (for career expectation model) and perceived work values only explain less than 20% of the variation in the dependent variable. This indicates that there may be other variables that have a significant influence on career aspirations other than just these two variables.

The explanatory power for the career expectation models are slightly higher than for the career preference models and this is especially so for the Form 6 sample. The independent variables explain about 15% of the variation in Form 6 career expectation but the independent variables only explain about 11% of the variation in Form 6 career preference.

Table 6.16: Explanatory Power Of The Independent Variables Of Each Model In Describing The Variation in Career Aspiration

	Form 5 career preference	Form 6 career preference	Form 5 career expectation	Form 6 caree expectation
	Adjusted R^2	Adjusted R^2	Adjusted R^2	Adjusted R
l A only self concept variables and its interactions bservations are used)	0.146 (N=6573)	0.105 (N=2576)	0.148 (N=5632)	0.122 (N=2041)
el B only self concept variables and its interactions rvations are dropped if their studentised residual is than 2 or less than -2)	0.199 (N=5779)	0.143 (N=2479)	0.215 (N=5368	0.176 (N=2057)
el C concept variables, interaction terms and career rence (all observations are used)	-	-	0.159 (N=5454)	0.152 (N=2010)
el D concept variables, interaction terms, career rence and work values (all observations are used)	0.146 (N=6023)	0.114 (N=2460)	0.159 (N=5454)	0.153 (N=2175

6.14 Conclusion

The standardised coefficients and t values in Table 6.17 shows that the most important self concept variables influencing career aspirations in terms of relative importance are the academic variables such as *'SRP'* or *'SPM'* as a proxi for prior academic achievement, 'further education immediately' as a proxi for school leaving plans, 'Science' as a proxi for stream of study, further education to university (an important influence for only Form 5 career aspirations) and the interaction term 'prior academic achievement * Chinese'. Respondents who performed well in their *SRP* or *SPM* and those who are from the Science stream compared to those from the Arts stream and those who wish to further their education immediately compared to working immediately have higher career aspirations. The fact that the respondent wishes to pursue a tertiary education instead of stopping at lower levels of education also indicates high career aspirations but this is significant for only the Form 5 sample. For the Form 6 sample, this does not significantly influence their career aspirations. This could be because pursuing a Form 6 education in most cases already indicates that the respondents have made up their minds to obtain a tertiary education. Another academic related factor influencing all except Form 6 career preference is the fact that respondents who undertook at least one position of responsibility in school, seem to have higher career aspirations.

Demographic variables have also a strong influence on career aspirations as can be seen in Table 6.17, but for some variables the direction of influence is not as expected. For instance, both samples project a higher career aspiration for females compared to males. For the Form 6 sample, female career aspirations are even higher if the female perceives equal occupational opportunities for males and females. However, the influence of females perceiving equal occupational opportunities on career expectation of females is significant due to a few observations that are outliers. For Indians, the career aspiration is higher than *Bumiputera* and Chinese respondents but the reason for this is also unexplainable in terms of self concept. For both samples, the Chinese respondents' career preferences are significantly lower than the *Bumiputera* respondents and their career expectations are significantly higher. However, it is found that the difference in

career aspirations between Chinese and *Bumiputera* respondents is mainly due to the strong relationship between Chinese and prior academic results. When the interaction term 'Chinese * prior academic results' is taken into account, it is found that there is no significant relationship between Chinese and *Bumiputera* respondents. However, the interaction term 'Chinese_*SPM*' is found to have a significant influence on career aspirations due to a few observations that are considered outliers.

The most important socio-economic variable seems to be parents' educational level proxied by mother's highest level of education as it significantly influences the career aspirations for both samples and its influence is also found to be relatively important as can be seen from Table 6.17. The other socio-economic status variables such as parents' occupational status and parents' income significantly influences only career expectation for both samples. Although parents' income significantly influences career expectations, it was found that other financial variables relating to parents' ability to finance their child's education have no significant or no relatively strong influence on career aspirations. The explanation for parents' educational level being an important variable in determining both career preference and career expectation, although other socio-economic status variables only influence career expectation and not career preference, could be because of the educational content whereby parents with higher education probably induce higher academic achievement and intentions in their children.

Family variables also do not have much influence on career aspirations. Family size and birth order do not as expected have significant negative influences on career aspirations for both samples. The form of parental interest that seems to have some positive influence on career aspirations of respondents is the fact that their parents check their homework often. However, its influence is relatively not important as can be seen from Table 6.17. It should be noted that, 'check work' and 'parental interest', as the only family related variable influencing career aspiration, is also indirectly related to the academic achievement of respondents. It was also found that when outliers are removed, the variable 'check work' becomes insignificant.

Other than the academic variables, career preference as an antecedent of career expectation has also a strong influence on career expectation. In fact it is one of the main

variable influencing career expectation as can be seen in Table 6.17It seems to have a stronger influence on the career expectations of the Form 6 sample compared to the Form 5 sample as its coefficients are larger for the Form 6 sample and it is found to be the relatively most important variable influencing Form 6 career expectation..

Perceived work values have very little influence on all the models. For Form 6 career expectations, work values relating to job satisfaction does not have any significant influence. Their career expectations are significantly influenced by work values pertaining to motivators and barricades to working in rural areas. They are also not significantly influenced by intrinsic social benefits but are instead strongly influenced by extrinsic benefits and intrinsic benefits in terms of availability of facilities. It is found that for Form 6 respondents who do not consider extrinsic benefits and intrinsic benefits in terms of facilities available (with extrinsic benefits having a relatively stronger influence), as important factors in encouraging them to work in rural areas, are also those who seem to aim for high prestige careers.

Not much difference can be observed between the career preference and career expectations of the Form 5 sample. For the Form 6 sample, one notable difference between these two aspects of career aspiration is that a relatively higher proportion of the variation in Form 6 career expectation is explained by the independent variables compared to a lower proportion for Form 6 career preference. Even when only self concept variables were considered, the Form 6 career expectation model has a higher explanatory power compared to Form 6 career preference. One reason for this could be because the distribution for the Form 6 career preference model is normal.

A few differences were also observed between the Form 5 and Form 6 sample. The fact that respondents wish to further their education to university level is a relatively important factor influencing the Form 5 sample but has no significant influence on the Form 6 sample. Having a good relationship with parents which would probably indicate receiving a lot of advice from parents, leads to higher career aspirations among Form 5 respondents but it does not significantly influence the Form 6 sample. It was found that factors such as work values and career preference have some significant influence on Form 6 career expectation but has no significant influence on Form 5 career expectation.

Finally, it can be concluded that nearly the same variables influence career preference and career expectation of both samples. The main variables influencing both these components are academic related variables, parents' educational level proxied by mother's highest level of education, gender proxied by the variable 'female', and ethnicity as in the variables 'Indians' and the interaction term 'Chinese_prior academic achievement'.

Table 6.17: Relative Importance Of The Independent Variables[1]

Form 5 Career Preference			Form 6 Career Preference		
Variable	Standardised Coefficient	t value	Variable	Standardised Coefficient	t value
	-0.149	-8.484	Science	0.149	6.644
ersity	0.122	9.343	Female	0.147	7.395
ıce	0.108	6.438	*SPM*	-0.111	-4.863
ıle	0.092	7.493	Furedu	0.102	5.172
du	0.085	6.775	Chinese_*SPM*	-0.092	-4.185
ıns	0.073	5.868	Indians	0.084	4.219
heredu	0.064	4.950	Motheredu	0.067	3.363
ationship	0.050	4.067	Knowledge	-0.062	-3.197
ily size	0.046	3.510	Scholarship	-0.051	-2.611
ck work	0.038	3.102	Interest	0.051	2.518
olarship	0.037	3.015	Altruism	-0.047	-2.410
nese_*SRP*	-0.035	-2.644			
uism	-0.034	-2.803			
ponsibility	0.030	2.435			
Form 5 Career Expectation			**Form 6 Career Expectation**		
Variable	**Standardised Coefficient**	**t value**	**Variable**	**Standardised Coefficient**	**t value**
P	-0.148	-8.097	Career preference	0.179	8.026
male	0.109	8.440	Female	0.110	4.262
lians	0.096	7.416	Motheredu	0.104	4.590
ience	0.093	5.355	Science	0.083	3.265
ıreer preference	0.090	6.682	Indians	0.083	3.712
niversity	0.079	5.703	Inc1000	-0.077	-3.131
ccstat	0.074	5.473	Chinese_*SPM*	0.071	2.839
lotheredu	0.056	4.018	Female_boysjob	-0.068	-2.709
hinese_*SRP*	0.053	3.932	*SPM*	-0.065	-2.513
ıc2000	0.041	3.006	Furedu	0.062	2.803
uredu	0.037	2.828	Responsibility	0.057	2.675
esponsibility	0.037	2.831	Surroundings_Intrinsic (Availability of facilities)	0.048	2.230
interest	0.036	2.636	Check work	0.045	2.112
Check work	0.031	2.366	Occstat	0.044	1.993
Prelationship	0.030	2.293	Surroundings_Extrinsic values	0.042	1.971

ote: Variables are ordered in a descending manner according to the standardised coefficients