

Evaluating the Effectiveness of Career-oriented Education at Work
--- An analysis based on questionnaires to alumni ---

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In 2011, Center of Research and Development for Co-operative Education (CRDCE) sent out by post questionnaires to 10,383 alumni who graduated in March of 2006, 2007, 2008, and 2009, with the government fund granted to Kyoto Sangyo University (KSU) by the Ministry of Education for organizing an employability project. These alumni mostly in their early 20's with up to 5 years of working experience were asked about their thoughts on earlier student life, present employment, the relevance of soft skills they acquired at university to the present employment, and work attitude. 1353 alumni replied to the questionnaires.

The present paper merged this data with the data previously collected on the GPA academic performance of those alumni, to analyse statistically the effectiveness of career-oriented education, or what is globally known as cooperative education, on the alumni's employment performance. The statistical analysis is performed on just over 1,000 samples of graduates from 2007, 2008, and 2009, with their attributes in mind such as gender, faculty, GPA's, as well as career-oriented course attendance, including WIL courses.

A similar line of investigation on the effectiveness of career-oriented courses has been performed in Matsutaka, Tanaka, and Churton (2010) and Tanaka (2012) using the data from KSU students questionnaires upon graduation. The present paper, however, extends the investigation into several years of employment, where the outcome is expected to be more apparent.

The paper attempts to show the kind of questions that were asked, how they were responded, and what conclusion we can draw, in order to apply this type of investigation in other institutions.

(Keywords)

Questionnaires to alumni, Quantitative analysis, Effectiveness of Cooperative education

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1 Introduction

In 2011, Center of Research and Development for Co-operative Education (CRDCE) sent out by post questionnaires to 10,383 alumni who graduated in March of 2006, 2007, 2008, and 2009, with the government fund granted to Kyoto Sangyo University (KSU) by the Ministry of Education for financing an employability project. These alumni mostly in their early 20's with up to 5 years of working experience were asked about their thoughts on earlier student life, present employment, the relevance of soft skills they acquired at university to the present employment, and work attitude. 1353 alumni replied to our questionnaires.

The present paper merges this data with the data previously collected on the GPA academic performance of those alumni, to analyse statistically the effectiveness of career-oriented education, or what is globally known as cooperative education --- from here, the term "career-oriented education" is used only when we refer to the Japanese case, on the alumni's employment performance. The statistical analysis is performed on just over 1,000 samples of graduates from 2007, 2008, and 2009, with their attributes in mind such as gender, faculty, GPA's, as well as career-oriented course attendance, including Work-integrated Learning (WIL) courses.

This paper follows a pattern of investigation found in Matsutaka, Tanaka, and Churton (2009), Tanaka (2012), and Tanaka, and Carlson (2012), in which the data from KSU students questionnaires upon graduation was used for the quantitative analysis. Matsutaka, Tanaka, and Churton (2010) looked at how students saw career-oriented education. Out of those who graduated in 2006 over 1300 students answered and a statistical analysis showed that making effort for academic studies did have a positive effect on job placement. Tanaka (2012a) used the data of all 5473 students who graduated in 2008 and 2009, to quantitatively analyze the effects of career-oriented education on academic performance and job placement. It was found that career-oriented education has a positive effect on academic performance as well as on job placement. The similar set of data was used in Tanaka and Carlson (2012b) for an international comparison. Universities in Japan and Hong Kong were compared with respect to the effectiveness of career-oriented education, using over 2500 samples and 1300 samples respectively. The investigation succeeded in identifying the positive effect in both institutions despite the differences in programmes and socio-cultural background,

The present paper extends the investigation into several years of employment. It is based on the responses to questionnaires sent out by post during March and April 2011, to 10,383 alumni, who graduated between 2006 and 2009. More details would be made clear in the later chapters but the questions relevant to our investigation include those about the alumni's attitudes to the present job and job in general, as well as skills at work place that they felt were acquired during university career. It goes without saying that skills and knowledge acquired at university has a long-run effect

on one's life. For that reason, it would be more appropriate in theory to investigate what the university career does to graduates years or decades after graduation. On the other hand, years after graduation add so many other elements in one's life that it might be difficult in practice to single out the university effects. Nevertheless, the effectiveness of cooperative education on work is what all the practitioners of cooperative education would like to know. And it is more so if the data can be collected years after rather than just after graduation.

There have been a considerable number of attempts to verify the effectiveness of cooperative education on academic performance using statistical data collected on students. For example, Heller and Heinemann (1987) utilizes the subjective response of students, and Zegwaard & McCurdy (2008) utilizes the academic staff members' response measured by ordinal data such as 1 ~ 5 ranking, while Duignan (2003), Green (2009), Gomez, Lush, and Clements (2004), and Mandilaras (2004) all use more objective measures such as academic results measured by cardinal data of academic marks. Most of the studies suggest the positive impact of cooperative education on academic performance. What is common in these studies, however, is the small sample size, many of which offer the analysis based on several hundred individual student samples, if not mere two digit sample. This makes the generalization of the results more difficult..

There are some attempts based on a large sample. A private research firm, Ipsos Reid conducted an online poll in 2010 to investigate the impact of cooperative education program throughout Canada and found among 1493 respondents that a half of non-co-op students wished they participated in co-op programme. And a large majority of co-op students believed that their experience had an impact on their career, employment and learning. The problem with such an analysis is that it does not take samples' attributes into consideration. For example, engineering graduates might find the programme more useful, or the response might vary by age and working experience, and so on..

The present paper attempts to solve these issues. Firstly, the sample size is sufficiently large at just below 1,000. Secondly, the individual response is analysed in relation to their attributes, though the use of regression analysis. Finally, the data is collected from those who have graduated and working for several years, where the effect of cooperative education must be more apparent than while one is a student or when one has just graduated.

The paper proceeds as follows. After a brief introduction of Kyoto Sangyo University and its career-oriented education structure, the survey questions and the basic statistics for these questions are presented. This is followed by the statistical results of regression analysis. Finally, the importance of the results is discussed in order to suggest future policies to improve cooperative education programmes.

2 KSU and its cooperative education programme

Kyoto Sangyo University was founded in 1965 and is a medium sized private university in Japan

with over 13,000 students among seven faculties i.e. Economics, Business, Law, Foreign Languages, Culture, Science, and Engineering. Since 1999, KSU has been offering its students a range of career-oriented education courses. A significant step was taken when the government approved and funded our new project on career-oriented education in 2004 and the Centre of Research and Development for Career Education was set up. Since then, the programme has expanded and as of 2009, the year that the last group of sample alumni graduated, there were 20 courses. Of the 20 courses, 11 are work-integrated learning courses such as “Internships 1~6” and “On/off campus fusion,” in which students have direct contact with industries, while 9 are induction courses such as “University life and career choice,” “Self-discovery and career plan,” and “Business Challenges of Twenty-first century” to introduce students to working life with no direct industrial contacts.

3 The details of the survey and the basic statistics

The survey was conducted in order to evaluate the effect of KSU’s career-oriented education programme on the work careers of its alumni by KSU’s career center. The survey questionnaires were sent out by post on 31st of March 2011 and accepting the replies received not later than 28th of April 2011. The subjects were 10,383 alumni who graduated between 2006 and 2009 and there were 1353 valid replies with sampling rate of 13.0% (1353/10,383).

The questions asked were of three types: (1) the employment situation since graduation up to the present and work attitude, (2) the evaluation of the career-oriented courses he/she took at KSU in relation to working experience since graduation, (3) free comments on KUS’s career-oriented education programme. For (1) and (2), the respondents are asked to choose one out of 1~5 ranking --- i.e. strongly agree, agree, cannot say which, disagree, strongly disagree.

Table 1 shows the basic statistics for the sample alumni, which may be summarized as follows;

- (1) There are slightly more male than female alumni.
- (2) The average number of working years is just below 2 years.
- (3) Non-science alumni (i.e. other than Science and Engineering) constitute about 90%.
- (4) Average GPA’s for 1st and 3rd years were both just above 2.0.
- (5) The average number of career-oriented courses alumni took was just over 1.
- (6) Of the career-oriented courses, Work-integrated Learning courses were taken by about 1 in 5 to 6 alumni. (17.4%)
- (7) Of the career-oriented courses, more introductory and non-WIL courses were taken by about every other student.

Table 2 shows the actual questions asked and their responses, which are relevant to the present investigation. And they may be summarized as follows;

- (1) Most of alumni participated in seminars, which is a small class that continues from 2nd to 4th year.

- (2) The ratio of full-time to part-time employees is about 3 to 1.
- (3) 1 in 3 to 4 alumni wishes to change the job.
- (4) The level of satisfaction of the present job is relatively high, with some exceptions of pay, working days and hours, job fit, and work load and work level. (marked with (ii))
- (5) As for the skills acquired through working experience, the skill to create new values is the only skill less than a half of the respondents included. (marked with (ii))
- (6) Among the attitudes to work, having a clear future plan, wanting to start own business, scored low. (marked with (ii))

4 The results of the regression analysis

Table II shows an overall picture of the response. It is true to say, however, that the response may depend on the attributes of the respondents. For, example, male employees may be more work-oriented than female employees, or social science graduates may find personal relationships at work more important than science graduates, or those who took career-oriented courses may find the studies at university more relevant to work --- in fact, this last example is the theme that the present paper is most interested in.

The regression analysis is used in order to decode the complex interactions among the attributes of the sampled alumni. A series of regressions are estimated with Ordinary Least Square Method, where the answers to the questions in Table II are the dependent variable and the alumni's attributes are independent variables. The dependent variable is a 1-0 variable, e.g. 1 if the job is full-time and 0 otherwise. Independent variables can be a 1-0 variable such as male and female, i.e. 1 if it is male and 0 otherwise, or a cardinal variable such as GPAs in 1st and 3rd year.

Table III summarizes the regression analysis results. There are 16 equations with different dependent variables, which show the effect of some independent variables with significance. The sample size varies depending on the question as not everyone answered all the questions but generally is in the range of 800 to 1000. The effects of each independent variables are explained in turn.

- (1) Gender (MF) appears as a significant variable in many equations i.e. Equations 1, 9, 12, 13, 14, and 15. Male alumni seem to want to take initiatives at work by working at full-time, creating new values, looking for a job to fit his talent, and having a close tie at work.
- (2) Working more years (WorkYrs) appears as a significant variable in many equations again, i.e. Equations 1, 2, 5, 10, 11, 12, and 13. It is not surprising that working more years seems to appear as a significant variable for skill acquirement, i.e. Equations 10 and 11. This means the longer one works, the more clearly he/she realizes the skill acquired at university. What is interesting is its negative significance in Equations 12 and 13. The attitude towards work seems to become more objective through working experience.

- (3) Multiple faculty dummies (E, B, J, L, S, and C01) show significance for Equations 2, 4, 10, 11, reflecting a particular type of teaching each faculty offers. Equations on acquired skills (from Q9A to Q9L in Table II, although not all equations are presented here) tend to show these variables as significant. This seems to suggest that a range of skills acquired differ among faculties.
- (4) As for GPA's (GPA1 and GPA3), GPA for 3rd year seems to be a more significant variable. See Equations 4, 5, 6, 7, 8, 9, 10, 13, 15, and 16. What is interesting is the sign of the estimates in these equations --- they are all negative apart from Equation 16. One might interpret these results as alumni with high academic achievement finding the gap between the academic life and working life more difficult to close than those with lower academic achievement.

The results for participation in small class i.e. Seminar (or Zemi in Japanese), work-integrated learning, and a number of career-oriented courses are the variables of the most interest for the present investigation.

- (5) Participation in small class experience (Zemi) is a significant variable for equations 1, 2, 5, 10, and 13. This experience seems to prepare students for working in a group. Equation 1 suggests that it helps obtaining a full-time job, while Equation 2 suggests it reduces the frequency of job changes. Equations 5, 10, 13 all suggest that the alumni find it comfortable to work in the organization if they have participated in small classes.
- (6) The number of career-oriented course (Wil+Induct.) is a positively significant variable in Equations 4, 7, 9 and 11. They show a similar tendency to Zemi above, i.e. it seems to prepare students for working in a group in Equations 4, 7 and 11. What is interesting is Equation 9 --- career-oriented courses seem to contribute to acquire skills to create new values.
- (7) Work-integrated Learning (WIL) appears as significant variable in Equations 1, 6, 8, 12, and 13. As it might have been expected, it acts positively in Equations 1 and 6. The negative signs in 12 and 13 seem to suggest that WIL helps students have a long term perspectives about Quality of Life.

5. Conclusion

KSU students' data has been used previously to analyse the effects of career-oriented on students' awareness, academic performance and employment outcomes. This paper goes further into the effect during the post education period. It is clearly what practitioners and academic investigators of cooperative education wish to know the most i.e. Is cooperative education an effective tool for one's working life?

The main results of the investigation in this paper may be summarized as follows. Career-oriented courses and Work-integrated Learning in particular seem to help students prepare well for their

working life through having more realistic view about working. Small class participation seems to prepare students for working in a group through close interactions with the tutor as well as fellow students. On the other hand, students with high GPA seem to feel less happy about working. This may be caused by finding a gap between academic studies and real life work.

There are at least three lessons to be learned for the practitioners and the investigators. First, each faculty should clarify the range of skills they wish to offer and plan the academic programme accordingly. This lesson comes from the result that there is a faculty difference in response to the questionnaires. Second, the practitioners and investigators can rest assured that career-oriented education and WIL are effective tools for smooth transition from study to work. They seem to help students build an objective understanding about working life. Thirdly, career-oriented education is particularly useful for students with high academic achievement, who tend to find it difficult to adjust to working environment. This is more so as the other effective variable Zemi has already reached high level of participation.

REFERENCES

- Duignan, J. (2003). Placement and adding value to the academic performance of undergraduates: Reconfiguring the architecture - an empirical investigation. *Journal of Vocational Education and Training*, 55 (3), 335-350.
- Green, J.P. (2009). The impact of a work placement year on student final year performance: An empirical study. Paper presented at the 16th WACE World Conference, Vancouver.
- Heller, B., & Heinemann, H.N. (1987). The impact of structured and non-structured work experiences on college students' attitude, values and academic performance. *Journal of Cooperative Education*, 23 (3), 19-32.
- Mandilaras, A. (2004). Industrial placement and degree performance: Evidence from a British higher institution. *International Review of Economics Education*, 3(1), 39-51.
- Matsutaka, M., Tanaka, Y., & Churton, P. (2009) Assessing the effectiveness of co-op education in Japan: A panel data analysis at KSU. Paper presented at the 16th WACE World Conference, Vancouver.
- Tanaka, Y. (2012). Evaluating the Effects of Career-oriented Education on Academic Performance and Employment Outcome- A statistical analysis based on students' data -, *Forum of Higher Education Research*, Kyoto Sangyo University, Vol.2, 9-16.
- Tanaka, Y. & Carlson, K. (2012) An international comparison of the effect of work-integrated

learning on academic performance: A statistical evaluation of WIL in Japan and Hong Kong .
Asian Pacific Journal of Cooperative Education, 13(2), 77-88.

Zegwaard, K.E., & McCurdy, S. (2008). Value of work placements for students and its influence on student performance: Faculty perceptions. In R.K. Coll, & K. Hoskyn, (Eds) Proceedings from the Annual Conference for the New Zealand Association for Cooperative Education, New Plymouth, New Zealand, 6-10.

Table I: The basic statistics

(1) Gender	
Male	60%
Female	40%
(2) Average number of working years	1.993
(3) Disribution of studetns by faculty	
Economics	19.0%
Busimess	19.7%
Law	25.3%
Languages	15.7%
Science	4.7%
Engineering	5.1%
Cultural studies	10.5%
(4) Average GPA	
1st year	2.071
3rd year	2.067
(5) Career-oriented Education courses	
Average number of career-oriented eucation courses taken	1.144
Students who took at least one Work-integrated Learning course	17.4%
Students who took at least one Induction course	57.2%

Table II: The Summary of the responses to the questions (1005 samples)

Sample size		1005												
		Sig. var												
		M/F workyrs E B J L S C GPA1 GPA3 WIL Induction WIL&InducZemi												
Q6Zemi	91.3%	Seminar member (% of respondents who participated in small seminar classes)												
Q7FT/PT	75.3%	Full-time/Part-time % of respondents who are at full-time jobs												
Q71Duratio	2.222	Duration of employment at the present job (by years)												
Q76Change	29.4%	Desire to change the job % of respondents who wish to change the present job												
Q8Noofjob	1.356	Number of job changes since graduation)												
(About the present job) ⁽ⁱ⁾														
Q75-A	69.2%	I find the job rewarding.												
Q75-B	46.2%	(ii) I feel my pay is fair for what I do.												
Q75-C	55.6%	(ii) I feel I work too many days and hours.												
Q75-D	76.6%	Human relations at work is smooth.												
Q75-E	59.5%	My contribution is accessed properly												
Q75-F	46.4%	(ii) My ability and aptitude fit well with my work.												
Q75-G	48.4%	(ii) Work burden and level are right for me												
Q75-H	74.2%	I Would like to develop my personality though this job												
Q75-I	50.2%	I Would like to continue this job as long as I can												
Q75-J	57.3%	I am generally happy with the present job.												
(Skills acquired and improved though work) ⁽ⁱ⁾														
Q9-A	78.1%	Skill to deal with issues willingly												
Q9-B	63.3%	Skill to get others involved												
Q9-C	76.4%	Skill to set up a purpose and act accordingly												
Q9-D	73.9%	Skill to analyze a situation and verify its problems												
Q9-E	66.8%	Skill to clarify and prepare a process of problem solving												
Q9-F	43.0%	(ii) Skill to create new values												
Q9-G	66.1%	Skill to express own opinion to others												
Q9-H	80.8%	Skill to listen to opinions of others carefully												
Q9-I	79.8%	Skill to understand different opinions and positions of others												
Q9-J	80.4%	Skill to understand interactive relations with others and surroundings												
Q9-K	81.5%	Skill to follow social rules and stick by personal commitment												
Q9-L	55.3%	Skill to cope with cause of stress												
(Attitude towards work) ⁽ⁱ⁾														
Q10-A	61.2%	Long-term employment is a good thing.												
Q10-B	50.7%	Job satisfaction is more important than salary or other conditions.												
Q10-C	54.8%	Job is a means of self-realization.												
Q10-D	39.2%	(ii) I have a clear future life plan												
Q10-E	65.3%	Promotion is an important aspect of job.												
Q10-F	18.5%	(ii) I prefer to set up own business and be self-employed.												

Table II: The Summary of the responses to the questions (1005 samples)

Q10-G	82.7%	I would work in an environment where I can feel my contribution.			0	
Q10-H	87.6%	It is important to build up personal networks in side and outside workplace.	x		0	xx
Q10-I	94.3%	Human relation skills are becoming more important.			x	
Q10-J	94.3%	It is necessary to acquireactively skills necessary for performing jobs.			x	x

(Note)

(i): the 1~5 ranking of srongly agree, agree, neither, disagree, srongly disagree were devided to 1 if straongly agree or agree and 0 otherwise.

(ii): the question with more negative than positive response

Table IIIa: The regression results

(Equation 1)
Dependent Variable: Q7FT_PT
Included observations: 1005

Variable	Coef.	t-value	P-value
C	0.309	3.257	0.001
M_F	0.091	2.932	0.003 **
WORKYRS	0.062	3.753	0.000 **
E	0.053	0.800	0.424
B	0.096	1.450	0.147
J	0.044	0.678	0.498
L	-0.013	-0.183	0.855
S	-0.120	-1.392	0.164
C01	-0.033	-0.455	0.649
GPA1	0.033	1.364	0.173
GPA3	0.004	0.180	0.857
WIL	0.091	2.523	0.012 *
Q6ZEMI	0.158	3.202	0.001 **
Adjusted R-squared	0.046		
F-statistic	5.023		
Prob(F-statistic)	0.000		

(Equation 2)
Dependent Variable: Q8NOOFJOBS
Included observations: 994

Variable	Coef.	t-value	P-value
C	1.184	6.508	0.000
M_F	0.067	1.143	0.253
WORKYRS	0.081	2.563	0.011 *
E	0.029	0.227	0.820
B	0.053	0.414	0.679
J	0.182	1.465	0.143
L	0.299	2.251	0.025 *
S	0.002	0.012	0.991
C01	0.258	1.849	0.065 +
GPA1	0.018	0.390	0.697
GPA3	-0.022	-0.570	0.569
INDUCTION	0.002	0.047	0.963
Q6ZEMI	-0.173	-1.826	0.068 +
Adjusted R-squared	0.016		
F-statistic	2.363		
Prob(F-statistic)	0.005		

(Equation 3)
Dependent Variable: Q75B
Included observations: 892

Variable	Coef.	t-value	P-value
C	0.550	4.502	0.000
M_F	0.054	1.356	0.176
WORKYRS	-0.033	-1.590	0.112
E	-0.033	-0.387	0.699
B	-0.134	-1.589	0.113
J	-0.051	-0.616	0.538
L	-0.022	-0.244	0.807
S	-0.093	-0.836	0.403
C01	-0.141	-1.512	0.131
GPA1	0.018	0.603	0.546
GPA3	-0.013	-0.503	0.615
WIL	0.074	1.650	0.099 +
Q6ZEMI	-0.010	-0.154	0.878
Adjusted R-squared	0.003		
F-statistic	1.223		
Prob(F-statistic)	0.262		

(Equation 4)
Dependent Variable: Q75D
Included observations: 892

Variable	Coef.	t-value	P-value
C	0.895	8.620	0.000
M_F	-0.006	-0.193	0.847
WORKYRS	0.022	1.269	0.205
E	-0.103	-1.431	0.153
B	-0.146	-2.026	0.043 *
J	-0.119	-1.688	0.092 +
L	-0.111	-1.451	0.147
S	-0.128	-1.358	0.175
C01	-0.144	-1.815	0.070 +
GPA1	0.021	0.788	0.431
GPA3	-0.042	-1.879	0.061 +
NO OF WII	0.022	1.870	0.062 +
Q6ZEMI	-0.037	-0.675	0.500
Adjusted R-squared	0.002		
F-statistic	1.132		
Prob(F-statistic)	0.330		

(Equation 5)
Dependent Variable: Q75F
Included observations: 892

Variable	Coef.	t-value	P-value
C	0.428	3.502	0.001
M_F	-0.014	-0.359	0.720
WORKYRS	0.038	1.812	0.070 +
E	-0.062	-0.739	0.460
B	-0.040	-0.474	0.636
J	-0.074	-0.894	0.371
L	-0.087	-0.977	0.329
S	-0.098	-0.883	0.378
C01	-0.040	-0.426	0.670
GPA1	-0.011	-0.346	0.729
GPA3	-0.045	-1.694	0.091 +
WIL	0.020	0.439	0.661
Q6ZEMI	0.153	2.362	0.018 *
Adjusted R-squared	0.004		
F-statistic	1.267		
Prob(F-statistic)	0.233		

(Equation 6)
Dependent Variable: Q75I
Included observations: 892

Variable	Coef.	t-value	P-value
C	0.468	3.836	0.000
M_F	0.040	1.014	0.311
WORKYRS	0.002	0.091	0.928
E	0.056	0.662	0.508
B	0.068	0.808	0.419
J	0.134	1.625	0.105
L	-0.010	-0.110	0.912
S	0.101	0.912	0.362
C01	-0.036	-0.385	0.700
GPA1	0.037	1.219	0.223
GPA3	-0.054	-2.041	0.042 *
WIL	0.081	1.800	0.072 +
Q6ZEMI	-0.033	-0.515	0.607
Adjusted R-squared	0.012		
F-statistic	1.934		
Prob(F-statistic)	0.027		

(Equation 7)
Dependent Variable: Q75I
Included observations: 892

Variable	Coef.	t-value	P-value
C	0.459	3.767	0.000
M_F	0.039	0.983	0.326
WORKYRS	0.005	0.259	0.796
E	0.047	0.555	0.579
B	0.054	0.632	0.528
J	0.127	1.540	0.124
L	-0.028	-0.308	0.758
S	0.106	0.952	0.341
C01	-0.042	-0.451	0.652
GPA1	0.036	1.172	0.242
GPA3	-0.052	-1.964	0.050 *
NO_OF_WII	0.029	2.052	0.041 *
Q6ZEMI	-0.042	-0.652	0.514
Adjusted R-squared	0.014		
F-statistic	2.017		
Prob(F-statistic)	0.020		

(Equation 8)
Dependent Variable: Q9_D
Included observations: 997

Variable	Coef.	t-value	P-value
C	0.740	7.465	0.000
M_F	0.033	1.008	0.314
WORKYRS	0.023	1.320	0.187
E	-0.007	-0.106	0.916
B	-0.007	-0.104	0.917
J	-0.065	-0.946	0.345
L	-0.023	-0.318	0.751
S	-0.074	-0.814	0.416
C01	0.010	0.127	0.899
GPA1	0.018	0.727	0.467
GPA3	-0.035	-1.634	0.103
WIL	-0.062	-1.666	0.096 +
Q6ZEMI	0.013	0.261	0.795
Adjusted R-squared	0.001		
F-statistic	1.116		
Prob(F-statistic)	0.343		

Table IIIa: The regression results

** = significant at 1%, * = significant at 5%, + = significant at 10%

Table IIIb: The regression results

(Equation 9)
Dependent Variable: Q9_F
Included observations: 996

Variable	Coef.	t-value	P-value
C	0.550	4.893	0.000
M F	0.070	1.912	0.056 +
WORKYRS	0.005	0.250	0.803
E	-0.088	-1.103	0.270
B	-0.046	-0.572	0.568
J	-0.132	-1.698	0.090 +
L	-0.030	-0.355	0.723
S	-0.077	-0.745	0.456
C01	-0.034	-0.392	0.695
GPA1	-0.008	-0.282	0.778
GPA3	-0.043	-1.745	0.081 +
NO OF WI	0.025	1.905	0.057 +
Q6ZEMI	-0.022	-0.370	0.711
Adjusted R-squared	0.006		
F-statistic	1.482		
Prob(F-statistic)	0.125		

(Equation 10)
Dependent Variable: Q9_G
Included observations: 997

Variable	Coef.	t-value	P-value
C	0.300	2.826	0.005
M F	0.046	1.321	0.187
WORKYRS	0.061	3.328	0.001 **
E	0.096	1.271	0.204
B	0.142	1.898	0.058 +
J	0.086	1.172	0.241
L	0.174	2.235	0.026 *
S	0.089	0.914	0.361
C01	0.133	1.611	0.108
GPA1	0.053	1.955	0.051 +
GPA3	-0.048	-2.061	0.040 *
WIL	0.026	0.645	0.519
Q6ZEMI	0.096	1.749	0.081 +
Adjusted R-squared	0.019		
F-statistic	2.611		
Prob(F-statistic)	0.002		

(Equation 11)
Dependent Variable: Q9_L
Included observations: 997

Variable	Coef.	t-value	P-value
C	0.387	3.445	0.001
M F	-0.053	-1.447	0.148
WORKYRS	0.058	2.968	0.003 **
E	0.080	1.008	0.314
B	0.126	1.574	0.116
J	0.058	0.748	0.455
L	0.092	1.109	0.268
S	0.123	1.199	0.231
C01	0.170	1.951	0.051 +
GPA1	-0.013	-0.452	0.652
GPA3	-0.004	-0.158	0.874
NO OF WI	0.027	2.044	0.041 *
Q6ZEMI	-0.002	-0.043	0.966
Adjusted R-squared	0.013		
F-statistic	2.058		
Prob(F-statistic)	0.017		

(Equation 12)
Dependent Variable: Q10_A
Included observations: 994

Variable	Coef.	t-value	P-value
C	0.799	7.237	0.000
M F	-0.066	-1.841	0.066 +
WORKYRS	-0.060	-3.166	0.002 **
E	0.019	0.246	0.806
B	0.023	0.297	0.767
J	0.068	0.890	0.374
L	0.018	0.218	0.827
S	-0.009	-0.090	0.929
C01	-0.007	-0.078	0.938
GPA1	-0.016	-0.587	0.557
GPA3	-0.014	-0.594	0.553
WIL	-0.075	-1.803	0.072 +
Q6ZEMI	0.033	0.574	0.566
Adjusted R-squared	0.008		
F-statistic	1.643		
Prob(F-statistic)	0.075		

(Equation 13)
Dependent Variable: Q10_E
Included observations: 994

Variable	Coef.	t-value	P-value
C	0.712	6.829	0.000
M F	0.189	5.572	0.000 **
WORKYRS	-0.035	-1.961	0.050 *
E	0.004	0.059	0.953
B	0.089	1.214	0.225
J	0.015	0.203	0.839
L	0.013	0.172	0.864
S	0.002	0.025	0.980
C01	0.018	0.223	0.824
GPA1	-0.043	-1.647	0.100 +
GPA3	-0.061	-2.673	0.008 **
WIL	-0.069	-1.754	0.080 +
Q6ZEMI	0.116	2.165	0.031 *
Adjusted R-squared	0.070		
F-statistic	7.233		
Prob(F-statistic)	0.000		

(Equation 14)
Dependent Variable: Q10_F
Included observations: 993

Variable	Coef.	t-value	P-value
C	0.206	2.333	0.020
M F	0.111	3.859	0.000 **
WORKYRS	0.000	0.017	0.986
E	-0.015	-0.248	0.804
B	-0.032	-0.515	0.607
J	-0.116	-1.915	0.056 +
L	-0.007	-0.115	0.909
S	-0.088	-1.098	0.273
C01	-0.052	-0.764	0.445
GPA1	-0.009	-0.390	0.697
GPA3	-0.027	-1.386	0.166
WIL	-0.009	-0.272	0.785
Q6ZEMI	0.042	0.920	0.358
Adjusted R-squared	0.022		
F-statistic	2.861		
Prob(F-statistic)	0.001		

(Equation 15)
Dependent Variable: Q10_H
Included observations: 994

Variable	Coef.	t-value	P-value
C	0.820	11.334	0.000
M F	0.049	2.081	0.038 *
WORKYRS	0.000	0.032	0.975
E	0.068	1.330	0.184
B	0.046	0.911	0.363
J	0.042	0.853	0.394
L	0.045	0.840	0.401
S	-0.025	-0.386	0.700
C01	0.096	1.705	0.089 +
GPA1	0.016	0.865	0.387
GPA3	-0.045	-2.843	0.005 **
WIL	0.001	0.039	0.969
Q6ZEMI	0.050	1.330	0.184
Adjusted R-squared	0.009		
F-statistic	1.721		
Prob(F-statistic)	0.058		

(Equation 16)
Dependent Variable: Q10_J
Included observations: 995

Variable	Coef.	t-value	P-value
C	0.906	18.817	0.000
M F	-0.020	-1.253	0.211
WORKYRS	-0.007	-0.891	0.373
E	0.041	1.215	0.225
B	0.020	0.578	0.564
J	0.065	1.975	0.049 *
L	0.032	0.898	0.369
S	-0.044	-1.018	0.309
C01	0.028	0.747	0.455
GPA1	-0.004	-0.346	0.729
GPA3	0.021	2.031	0.043 *
WIL	0.007	0.373	0.709
Q6ZEMI	0.004	0.144	0.886
Adjusted R-squared	0.011		
F-statistic	1.900		
Prob(F-statistic)	0.031		

Table IIIb: The regression results

** = significant at 1%, * = significant at 5%, + = significant at 10%