

The Effect of Risk Management and Student Characteristics on Life Skills of Higher Education Students

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ABSTRACT

The purpose of this research was to examine the fixed and random effects of risk management on higher education students' activities at the student and faculty levels of analysis on their life skill development. It aimed to examine the relative impacts of the variables at the micro and macro levels. This study utilised the quantitative survey design using two types of questionnaire. A total of 588 samples consisted of 142 at the macro level and 446 at the micro level. The hierarchical linear model (HML) analysis was utilised to test the fixed effect and random effect of the null model, simple model and hypothesis model. The findings indicated that all the faculties had implemented their risk management higher than the average level. Findings of HML analysis indicated the total mean score of the students' life skills differed from one faculty to the other to another and could be used to explain the students' life skills. In addition, there were three independent variables, namely, gender, being a first-year student and being a Fine and Applied Arts student that could explain the prediction coefficient of the first level at 5.18%. At the micro level, the fixed effect analysis showed that the students' life skills parameter was 3.902, which was significant at 0.01. The macro-level independent variable in risk management of providing knowledge and skills as well as gender had a prediction coefficient of 48.6% and 18.2% to students' life skills, respectively. In addition, the variable for first-year students and third-year students had a negative prediction coefficient of 18.2% and 19.6% to their life skills, respectively. Finally, the independent variable of risk management on providing knowledge and skills had an impact on the students' life skills at 77.77%. The findings contribute significantly to the body of

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knowledge and propose a more accurate estimation of life skills development thus promote better policies and practices at the university level.

Keywords: Risk management, student characteristics, life skills

INTRODUCTION

Higher education students need the assistance of life skills to navigate the challenges of daily life and develop into healthy, responsible and productive individuals (Hanbury & Malti, 2011). Life skills will enhance their capability to take greater responsibility for themselves by making vigorous choices, acquiring greater resistance to negative pressures, avoiding risk behaviours and being able to deal effectively with the challenges of daily life (Hassan & Al-Jubari, 2016). The desirable characteristics of future Thai human capital must encompass all areas of life: emotional stability, moral uprightness, virtuous living, healthy lifestyle, learning skills, love, strong family bonds and knowing one's rights and duties (Office of National Economic and Social Development Board, 2007).

Higher education is recognised for establishing and directing trends, exploring new knowledge, promoting new ideas and transforming innovation that can be turned successfully and practically to opportunities for business, industry and community (Md. Ariff, Zakuan, Mohd Tajudin, Ahmad, Ishak, & Ismail, 2014). According to Tufano (2011), higher education leaders are encouraged to implement and advance risk

management programmes. Tufano further emphasised that risk management can be beneficial for higher education institutions for addressing key areas of risk and for managing risks that hamper the institution's efforts to achieve its key performance indicators. As a result, risk management can minimise the consequences of unfavourable events and at the same time motivate the decision-making process to ensure specified organisational performance is met.

One best practice model for contributing to the healthy development of higher education students is a life skills approach. A key aspect of human development that is important for basic survival is the acquisition of life skills such as self-adjustment, creative thinking, self-reliance and responsibility. This has been shown to have an impact on behaviour. According to Pooja and Naved (2009), research into interventions that address these specific skills has shown their effectiveness in promoting desirable behaviour such as sociability, improved communication, effective decision-making, conflict resolution and avoidance of negative or high-risk behaviour.

Essentially, life skills are important particularly to higher education students. Without proper skills to adapt to and deal with life, higher education students may face problems in later life such as making wrong decisions and being isolated by society, among others (Mofrad, 2013). In other words, life skills are all the skills and knowledge students experience in addition to academic skills that are essential for effective living. This means that excellence

in academic skills alone cannot determine survival in life if one does not have other skills necessary in life such as effective communication, decision-making, self-awareness, problem-solving and so on (World Health Organisation, 2009).

LITERATURE REVIEW

Kijorntham (2013) developed and validated a causal relationship model between life skills and risk behaviour of undergraduate students in Thailand. Kijorntham's results illustrated that the related factors to the risk behaviour of undergraduate students encompassed internal factors related to their bio-social characteristics and external environmental factors. The development model was properly fitted with empirical data $\chi^2/df = 3.21$, GFI = 0.99, RMR = 0.022, CFI = 0.99, and AGFI = 0.98. The model disclosed that the strongest factor affecting risk behaviour of undergraduate students was life skills at a negatively directed effect of 20%. The perception of health promoting factors had a 72% positively directed effect on health behaviour. Kijorntham's study concluded that life skills would be one way to lessen the risk behaviour of undergraduate students by generating more awareness of practical health behaviour practices and developing emotional control that would lead to minimising or eliminating risk behaviours that might lead to road accidents, violence, cigarette smoking and risky sex.

Mofrad (2013) investigated life skills among 500 undergraduate students from five universities in Subang Jaya, Malaysia. Mofrad utilised the Life-

Skills Development Inventory College to measure four domains of life skills, namely, interpersonal communication, decision making, health maintenance and identity development. Mofrad's findings revealed a significant gender difference regarding health maintenance. Mofrad also suggested that educators should provide opportunities to undergraduate students to practise social skills to enable them to be better prepared to face challenges in daily life.

Haas, Mincemoyer and Perkins (2015) examined the effects of age, gender and 4H involvement in clubs on life skill development of youth aged 8 to 18 over a twelve-month period. Regression analysis showed that age, gender and 4H involvement significantly influenced life skill development. Haas et al.'s (2015) findings showed that females had higher levels of competencies in life skills at the beginning of the programme and were more likely to change in these areas during the year than their male counterparts. Therefore Haas et al. suggested that changes in programme design may be needed to better engage, retain and affect males in life skill development.

CONCEPTUAL FRAMEWORK AND RESEARCH HYPOTHESIS

The main aim of this research was to investigate the effect of risk management in student activities and students' characteristics on their life skills in a public university in Khon Kaen province, Thailand. This study was based on the premise that risk management in student activities

and students' characteristics influenced higher education students' life skills at macro and micro levels. In particular, researchers evaluated the relative impact of risk management that exists at the student and faculty levels of analysis on their life skills development.

The variables in this study included risk management, students' characteristics and students' life skills. Risk management refers to the process in order of reducing the opportunity to cause loss and damage while implementing student activities in the university. Risk management of student activities was investigated according to the internal quality assurance (Office of the Higher Education Commission OHEC, 2014). Student activities were extra-curricular activities organised either by the higher education institutions or student organisations in which participants had an opportunity to develop themselves intellectually, socially, emotionally, physically and morally based on the five desirable qualifications, which are (i) morality and ethics, (ii) knowledge, (iii) intellectual skills, (iv) interpersonal skills and responsibility and (v) skills in quantitative analysis, communication and information technology usage, in addition to other desirable characteristics specified by professional councils or organisations and graduate employers.

Risk management is measured according to the following eight components, namely, objective setting, event identification, risk assessment, avoidance risk, acceptance

risk, controlling risk, distributing risk and monitoring the risk. Objective setting refers to the identification of needs to deal with the likelihood of damage due to student activities. Event identification refers to factors that indicate risks that affect the chance of damage occurring from student activities. Risk assessment is defined as evaluation and ranking of risks by comparing with selected criteria and arranging the priorities of the likelihood of the damage caused. Avoidance risk means to stop or take evasive action or reduction action. Acceptance risk is defined as managing risk up to an acceptance level. Controlling risk refers to reducing the probability of chance occurrence or reducing the damage. Distributing risk is defined as diversification of risk that is likely to occur. Finally, monitoring the risk refers to the collection of information on how to deal with the likelihood of losses that would occur while implementing student activities.

Life skills are abilities that enable students to behave in healthy ways, given the desire to do so and given the scope and opportunity to do so. Life skills in this study comprised self-adjustment, creative thinking, self-reliance and responsibility, all of which acted as dependent variables. Self-adjustment refers to students' ability adjust their behavioural change or certain features to their living environment. Creative thinking refers to the generation of new ideas within or across domains of knowledge, drawing upon or intentionally breaking with established symbolic rules

and procedures. Self-reliance is defined as the ability to depend on oneself to get things done and to meet one's own needs. Responsibility refers to the moral obligation to behave correctly towards or in respect of universal values.

The proposed conceptual framework is shown in Figure 1 below.

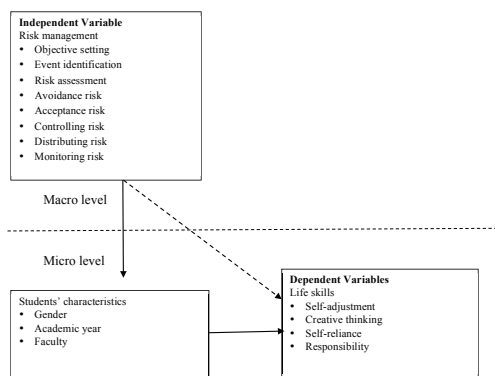


Figure 1. Conceptual framework

The first model to test was a null model that was conducted on the dependent variables without taking into account any independent variables. Null hypothesis 1 was tested to discover the extent to which the fixed effect and random effects influenced students' life skills.

Hypothesis 1: There are no fixed effect and random effects of the null model.

The micro-level variables could be used to explain the students' life skills, allowing researchers to test the effects on a simple model. Null hypothesis 2 was tested to

discover the extent to which the fixed effect and random effects influenced students' life skills.

Hypothesis 2: There are no fixed effect and random effects of the simple model.

Finally, the multi-level analysis was utilised to discover the extent to which the fixed effect and random effect of the hypothesis model influenced students' life skills.

Hypothesis 3: There are no fixed effect and random effects of the hypothesis model.

RESEARCH METHODOLOGY

The researchers employed the survey questionnaire as a method to collect quantitative data. A total of 7,432 subjects were engaged for this study comprising 191 personnel at the organisational level (macro) including administrators and officers for student activities, students' organisations and student union committees and 7,241 students (micro) from the seven faculties of humanities and social sciences groups in a public universities located in Khon Kaen province, Thailand. Multistage sampling technique followed by proportional simple random sampling technique was administered to select samples according to the two levels. A large sample size was needed to find an accurate group variation using Hierarchical Linear Modelling (HLM). The required sample size was 118 samples for the macro level and 364 samples

for the micro level according to Krejcie and Morgan's Table at 95% confidence level and fulfilled Hair, Back, Babin and Anderson's (2013) suggestion that sample size should not be less than 100 subjects.

Two types of survey questions in the form of a questionnaire were utilised in this study at the macro level and micro level. The questionnaires were administered in the Thai language to ensure that the respondents understood the statements. This method allowed for efficient gathering of data, minimising time, energy and costs (Wyse, 2012) and providing an excellent means of measuring attitudes and orientations in a large population that could be generalised to a larger population (Gay, Mills, & Airasian, 2012).

The macro-level questionnaire consisted of three sections and 91 questions. Section A of the questionnaire was intended to gather demographic details of the respondent at the organisational level and included information pertaining to gender, age, working experience, academic educational level and faculty. Section B was specifically designed by the researchers to gauge risk management application in student activities. A total of eight risk management components relevant to student activities were evaluated, consisting of 63 items all together. Section C was related to five desirable qualifications in student activities with 23 items. These five desirable qualifications comprised morality and ethics, knowledge, intellectual skills, interpersonal skills and responsibility and skills in

quantitative analysis, communication and information technology usage.

The micro-level questionnaire consisted of two sections and 29 items. Section A of the questionnaire was planned to gather demographic factors of the respondents at micro levels such as gender, academic year and attached faculty. Section B was specifically designed to evaluate students' life skills including self-adjustment, creative thinking, self-reliance and responsibility. There were 26 items in Section B.

The two questionnaires were then sent to a panel of experts for comments and feedback. The panel of experts was selected for their expertise. The three experts were a former administrator in the Faculty of Education, a deputy director of the Office of Quality Management and an expert from the department of educational research and evaluation for validation purpose. The panellists included professionals, administrators and practitioners. From the feedback returned by the panel, some modifications were made to the original instrument.

Pilot testing of the instruments was carried out on 42 participants consisting of seven personnel at the macro level and 35 students at the micro level. All the panellists in this pilot study were excluded from the actual study. They were chosen as their structure and population were the same as those of the panellists selected for the actual study. To improve the quality of the items in the instrument, they were also asked to give suggestions and comments on the items in

the instrument. Revisions were made based on the suggestions and feedback from the 42 participants. It could be concluded that the instruments were reliable and good to use as the Cronbach alpha value indicated that all the research variables had high Cronbach alpha values i.e. 0.989 and 0.872 for risk management and life skills, respectively.

Descriptive statistics utilised in this study were mean scores and standard deviation while inferential statistics HLM was used. HLM was utilised in this study to analyse variance in the outcome variables when the predictor variables were at varying hierarchical levels. The purpose of utilising HLM in this study was to explain the relationship of the variables at the same level and interaction between the different levels of each dependent variable. The results were high accuracy and low tolerance, which could be used to determine the suitability of the model (adequacy of model) as well.

The data were analysed with a multilevel structure that would reduce the problem of a biased summary of the crossing level (aggregation bias) error in calculating the standard error and reducing the variability of the regression coefficients as well. In this study, data were analysed from two levels, namely, the micro and macro level, which can be summarised into three steps as follows:

1) Analysis of the Null Model, which is a multilevel model analysis that is unqualified (Fully Unconditional Model) and is a unique multilevel analysis of model variables. This was to

determine which variables are variations within the unit or units sufficient to analyse and identify the influence of independent variables for the next step. β_{0j} of the equation was the value that can be changed and was expected to move around between the faculties. The following equation was formed:

Level 1 Model (Within-Unit Model)

$$Y_{ij} = \beta_{0j} + r_{ij}$$

Level 2 Model (Between-Unit Model)

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

(Fixed Effect) (Random Effect)

where Y_{ij} = dependent variable

β_{0j} = the intercept of the faculty,
j

γ_{00} = total mean score or average
of dependent variable

r_{ij} = standard deviation analysis
within the unit

u_{0j} = the discrepancy between
the unit of analysis

2) Analysis of the Simple Model is a multilevel model analysis that is unconditional (Unconditional Model) with the only variable, namely, students' characteristics. This was micro level data by inductive analysis collected to investigate how the variables were

analysed and caused the variance between the attached faculties. The t-test was used to check the fixed effect, while the χ^2 test was used to check the random effect. The variability of parameters was used to form the following equation:

Level 1 Model (Within-Unit Model)

$$Y_{ij} = \beta_{0j} + \beta_{1j} X_{ij} + r_{ij}$$

Level 2 Model (Between-Unit Model)

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

(Fixed Effect) (Random Effect)

where Y_{ij} = Students' life skills variable of the faculty

i_j = Student i of the faculty, j

X_{ij} = Students' characteristics, Student i of the faculty, j

β_{0j} = constant (Intercept) student of faculty variable, j

β_{1j} = the regression coefficient of X display on the Y faculty, j

γ_{00} = constant of β_{0j}

γ_{10} = constant of β_{1j}

r_{ij} = the error in students to predict Y_{ij}

u_{0j} = the error or residual in predicting the β_{0j} faculty, j

u_{1j} = the error or residual in predicting the β_{1j} faculty, j

- 3) Analysis of the Hypothesis Model is a multilevel model analysis of all the independent variables and dependent variable based on the hypothesis formed involving the micro and macro levels. The t-test was used to test the fixed effect (($H_0: \gamma_{10} = 0$), while the χ^2 -test was used to test the random effect of the parameter variance ($H_0: \text{Var}(\beta_{01}) = 0$, $H_0: \text{Var}(u_{0j}) = 0$). This was similar to the testing of the simple model.

Level 1 Model (Within-Unit Model)

$$Y_{ij} = \beta_{0j} + \beta_{1j} X_{1j} + \dots + r_{ij}$$

Level 2 Model (Between-Unit Model)

$$\beta_{0j} = \gamma_{00} + \gamma_{01} Z_{1j} + \dots + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} Z_{1j} + \dots + u_{1j}$$

$$\beta_{kj} = \gamma_{k0} + \gamma_{kl} Z_{1j} + \dots + u_{kj}$$

$$R_1^2 = \frac{\text{Var}(r_{ij})(\text{null model}) - \text{Var}(r_{ij})(\text{simple model})}{\text{Var}(r_{ij})(\text{null model})}$$

where, $\text{Var}(r_{ij})(\text{null model})$ = composition of the variability of r_{ij} to analyse the null model

$\text{Var}(r_{ij})(\text{hypothesis model})$ = the variable component of the analysis r_{ij} simple model

$$R_1^2 = \frac{(0.193) - (0.183)}{(0.193)} = 0.0518$$

RESULTS AND DATA ANALYSIS

A total of 600 questionnaires were distributed to 150 respondents at the macro level and 450 respondents at the micro level, respectively. There were 142 and 446 distributed questionnaires successfully collected, giving a total of 588, with a response rate of 98.0%. The results of this study are presented in accordance with the research hypothesis indicated above. The initial finding was the descriptive findings related to the three variables, namely, students' characteristics, risk management and life skills. This is followed by results from the HML analysis for null hypothesis testing. Table 1 below shows the identification of the level of variables proposed by Glass and Hopkin (1984).

Table 1
Interpretation of variable level based on mean score

Mean score range	Interpretation
4.50 – 5.00	Highest
3.50 – 4.49	High
2.50 – 3.49	Medium
1.50 – 2.49	Low
1.00 – 1.49	Lowest

Findings – Students' Life Skills

A total of 446 students who had completed questionnaires were considered as actual participants at the micro level. Table 2 shows the mean scores and standard deviations of students' life skills. The result of this study revealed that all the four life skills were high. Considering each of the life skill in order, it was found that the highest level was self-adjustment ($\bar{x} = 3.90$, $SD = 0.526$).

This was followed by responsibility ($\bar{x} = 3.84$, $SD = 0.543$) and creative thinking ($\bar{x} = 3.83$, $SD = 0.561$). The life skill with the lowest mean score was self-reliance ($\bar{x} = 3.79$, $SD = 0.599$). The overall mean score for life skills of students was high ($\bar{x} = 3.89$, $SD = 0.557$).

Table 2
Results of life skills

Life skills	\bar{x}	SD	Interpretation
Self-Adjustment	3.90	0.526	High
Responsibility	3.84	0.543	High
Creative thinking	3.83	0.561	High
Self-Reliance	3.79	0.599	High
Overall	3.89	0.557	High

Students' characteristics were measured accordingly to their gender, academic year and attached faculty. All the three measured characteristics were found to be quite equally distributed as shown in Table 3. The results showed that males' life skills ($\bar{x} = 3.99$) were better than females' ($\bar{x} = 3.77$). Table 3 shows that the mean score, standard deviation, skewedness and kurtosis of each group did not differ much. Students from the Faculty of Humanities and Social Sciences, Management Science, Faculty of Fine and Applied Arts and the College of Local Administration showed negative skewedness. This implies that most of the students possessed life skills above the average score. However, students from the Faculty of Education, the Faculty of Law and the International College showed positive skewedness. This indicated that

Table 3
Results of mean score, standard deviation and kurtosis of life skills according to students' characteristics

Students' characteristic	\bar{x}	SD	Skewedness	Kurtosis
Gender				
Male	3.99	0.440	-0.839	1.957
Female	3.77	0.454	-0.146	0.160
Academic year				
First year	3.80	0.521	-0.268	-0.453
Second year	3.90	0.436	-0.452	2.193
Third year	3.91	0.432	-0.383	0.010
Fourth year	3.93	0.431	0.394	1.100
Fifth year	4.07	0.402	-0.371	-0.484
Attached faculty				
Faculty of Education	3.80	0.398	0.011	-0.457
Faculty of Humanities and Social Sciences	3.71	0.503	-0.537	-0.131
Management Science	3.86	0.424	-0.304	2.276
Faculty of Fine and Applied Arts	4.30	0.434	-1.892	3.588
Faculty of Law	3.72	0.354	0.299	0.492
College of Local Administration	3.99	0.558	-0.952	0.471
International college	3.94	0.390	0.144	-0.836

the majority of the students had lower than average mastery of life skills.

Risk management was measured according to student activities, namely, planning, promoting learning development and providing knowledge and skills. All the three components were evaluated according to the standard criteria of Thailand's Internal Quality Assurance for Higher Education Institutions (Office of the Higher Education Commission OHEC, 2014).

All the seven faculties showed negative skewedness for risk management in planning student activities. This indicates that all the faculties had a higher than average level of risk management in planning student activities. The results revealed

that there were three faculties found to have the highest level of risk management in planning student activities, namely, Management Science, the Faculty of Fine and Applied Arts and the College of Local Administration ($\bar{x} = 0.94$), as shown in Table 4.

All the seven faculties showed negative skewedness for risk management except for the Faculty of Fine and Applied Arts in terms of promoting learning development of student activities. This indicated that the majority of the faculties had a higher than average level of risk management in promoting learning development of student activities. The result revealed that the College of Local Administration had

the highest level of risk management in promoting learning development in student activities ($\bar{x} = 0.86$), as shown in Table 4.

All the seven faculties showed negative skewedness for risk management in providing knowledge and skills for student activities. This indicated that all the faculties had a higher than average level of

risk management in providing knowledge and skills for students' activities. The result revealed that the College of Local Administration had the highest level of risk management for providing knowledge and skills for student activities ($\bar{x} = 0.94$), as shown in Table 4.

Table 4

Results of risk management in planning, promoting learning development and providing knowledge and skills for student activities

Risk Management	\bar{x}	SD	Skewedness	Kurtosis
Planning				
Faculty of Education	0.86	0.266	-2.309	5.527
Faculty of Humanities & Social Science	0.86	0.172	-1.287	1.460
Management Science	0.94	0.098	-1.894	3.747
Faculty of Fine & Applied Arts	0.94	0.165	-1.836	4.313
Faculty of Law	0.83	0.194	-1.479	2.959
College of Local Administration	0.94	0.073	-1.149	0.514
International College	0.50	0.348	-0.239	-1.310
Promoting learning development				
Faculty of Education	0.85	0.245	-2.713	8.320
Faculty of Humanities & Social Sciences	0.80	0.221	-0.624	-1.300
Management Science	0.85	0.190	-1.162	0.111
Faculty of Fine & Applied Arts	0.75	0.148	0.751	-1.017
Faculty of Law	0.70	0.265	-1.959	3.561
College of Local Administration	0.86	0.124	-0.420	-0.803
International College	0.49	0.312	-0.557	-0.625
Providing knowledge and skills				
Faculty of Education	0.89	0.254	-2.892	8.812
Faculty of Humanities & Social Sciences	0.83	0.276	-1.703	2.384
Management Science	0.82	0.243	-1.331	0.876
Faculty of Fine & Applied Arts	0.80	0.242	-1.462	1.760
Faculty of Law	0.75	0.324	-1.445	1.246
College of Local Administration	0.94	0.132	-2.394	5.459
International College	0.41	0.353	-0.031	-1.615

Findings – HML

The micro-level analysis was conducted in two steps. The first model (null model) was conducted on the dependent variables without taking into account any independent variables. As indicated in Table 5, the results of the fixed effect test showed that the total mean score of the students’ life skills was 3.899, which was statistically significant at 0.01. The test of random effect showed significant variations of difference among

students (r_{0j}) and difference among faculties (u_{0j}) at 0.01 ($\chi^2 = 58.53$). This means the total mean score of the students’ life skills (γ_{00}) differed from one faculty to another, with a difference in the total means of students’ life skills from different faculties. The variance in approximating the parameter was 0.193. In other words, the micro-level variables could be used to explain the students’ life skills. Therefore, the researchers were able to perform Step 2 (Simple Model).

Table 5
Results of null model from fixed effects and random effects

Fixed effects	β	Standard Error	t-test	df	p-values
INTRCPT, γ_{00}	3.899*	0.074	52.36	6	<0.001
Random Effects	SD	Variance Component	χ^2	df	p-values
Difference among faculties (U_{0j})	0.186*	0.034	58.53	6	<0.001
Difference among students (r_{0j})	0.440	0.193			

*p<0.001

As presented in Table 6, the results of fixed effect test showed that the total mean of the students’ life skills was 3.881 ($\gamma_{00} = 3.881$), and therefore, statistically significant at 0.01. The independent variable of students’ characteristics, which was positive and significant at 0.001 towards the students’ life skills, was masculinity (gender). The regression coefficient was found to be 0.177, indicating that masculinity (gender) made the students possess life skills. The independent variables that had negative effects on the students’ life skills were being a first-year student, which was significant at 0.001, with a regression coefficient of -0.200 and being a third-year student, with statistical significance at 0.05 and a

regression coefficient of -0.119, indicating a decrease in students’ life skills.

The independent variables of students’ characteristics, namely, masculinity (gender), being a first-year student and being a Fine and Applied Arts student could together explain the prediction coefficients of the first level at 0.0518. The three independent variables could explain the variance of students’ life skills at 5.18%.

The macro-level analysis based on the hypothesis model is demonstrated in Table 7. The results of the fixed effects analysis and the random effects are explained below.

At the micro level, the fixed effect analysis showed that the students’ life skills parameter was 3.902 ($\gamma_{00} = 3.902$), which

Table 6
Results of simple model from fixed effects and random effects

Fixed effects	β	Standard Error	t-test	df	p-values
INTRCPT, γ_{00}	3.881**	0.057	66.93	6	<0.001
BOY slope, γ_{10}	0.177**	0.046	3.78	435	<0.001
FIRST slope, γ_{20}	-0.200**	0.057	-3.51	435	<0.001
THIRD slope, γ_{30}	-0.119*	0.051	-2.31	435	0.021
FA slope, γ_{40}	0.450*	0.137	3.27	435	
Random Effects	SD	Variance Component	χ^2	df	p-values
Difference among faculties (U_{0j})	0.095**	0.099	20.48	6	0.003
Difference among students (r_{0j})	0.428	0.183			

**p<0.01, *p<0.05

was significant at 0.01. The macro-level independent variable in risk management of student activities, for example providing knowledge and skills for quality assurance to students (KHOWN), had significant positive effects on the students' life skills at

0.05, with a regression coefficient of 0.486, indicating that providing knowledge and skills for quality assurance to students made the students to possess life skills.

At the macro level, the variable of masculinity (gender) had significant positive

Table 7
Results of simple model from fixed effects and random effects

Fixed effects	β	Standard Error	t-test	df	p-values
INTRCPT, γ_{00}	3.902**	0.077	50.67	2	<0.001
Macro level	0.177**	0.046	3.78	435	<0.001
PLAN, slope, γ_{01}	-0.101	1.657	-0.061	2	0.957
DO, slope, γ_{02}	-1.810	1.736	-1.042	2	0.407
KHOWN slope, γ_{03}	0.486*	1.626	2.299	2	0.033
EVAL slope, γ_{04}	1.243	1.254	0.991	2	0.426
Micro level	0.095**	0.099	20.48	6	0.003
BOY slope, γ_{10}	0.182**	0.047	3.860	435	<.001
FIRST slope, γ_{20}	-0.196**	0.058	-3.385	435	<.001
THIRD slope, γ_{30}	-0.132*	0.052	-2.499	435	0.013
FA slope, γ_{40}	0.377	0.202	1.863	435	0.063
Random Effects	SD	Variance Component	χ^2	df	p-values
Difference among faculties (U_{0j})	0.150**	0.022	13.13	2	0.002
Difference among students (r_{0j})	0.427	0.183			

**p<0.01, *p<0.05

effects on the students' life skills at 0.01, with the regression coefficient at 0.182. This means that masculinity (gender) made the students' life skills increase at 0.182. The variable of being a first-year student had significant negative effects on the students at 0.01, with a regression coefficient of -0.196. This means that being a first-year student lessened their life skills at -0.196. Being a third-year student also had a significant negative effect on the students' life skills at 0.05, with a regression coefficient of -0.132. This showed that being a third-year student reduced their life skills at -0.132. The macro level independent variable of a provision of knowledge and skills in quality assurance for students had an impact on the dependent variable or the students' life skills at 77.77%.

DISCUSSION AND CONCLUSION

The result of this research showed that students who had different characteristics consisting of gender, academic year and faculty had different life skills. In Thai culture, men and women have different role and duties and they grow up from young in a cultural environment that makes them familiar with practices specific to gender (Kijtorntam, 2013). Therefore, the effect of masculinity (gender) on life skills was found either at the micro or macro level. According to Prasertcharoensuk, Somprach and Tang (2015), life skills are learnt and become more automatic through demonstration, modelling and practice. Furthermore, change in a vital stage of life and growth, the period of transition from school to university and from their parental influence to peer

influence, cause them to learn and develop life skills in a different way from girls.

The variable of student characteristics that had significant negative effects on life skills at the significant level of 0.01 was being a first-year student. First-year students need to adjust to the new learning system in university (Fallahchai, 2012). The variable of student characteristics that had significant negative effects on their life skills at a significant level of 0.05 was being a third-year student. This finding implies that third-year students had taken a longer period to develop life skills as they had to attend to more pressing compulsory subjects. These students had already gained complete activity credits according to Khon Kaen University's Regulations on Undergraduate Students for 2012. Therefore, their focus was on passing their compulsory courses in order to complete the programme successfully (Khon Kaen University, 2014).

The findings indicated that risk management, particularly in providing knowledge and skills, had a significant effect on students' life skills in accordance with Md. Ariff et al.'s (2014) findings. Md. Ariff et al. found that higher education institutions that had implemented systematic risk management practices enjoyed a high level of organisational performance. Hence Md Ariff et al. proposed a framework for risk management practices for managing risk in the Malaysian higher education setting. In addition, good understanding and awareness among staff on critical situations that they may face are required in risk management process. On top of that, the

findings related that students' characteristics like academic year had significant negative effects on students' life skills. This may be caused by the university's Regulations on Undergraduates Students of 2012, where third-year students have to undergo more compulsory subjects and gain more activity credits.

The researchers believe that HLM is an important statistical tool for investigating the relationship between risk management, students' characteristics and life skill development. By taking into account the hierarchical nature of educational data, HLM separates variation in life skills between students and risk management of faculties and then analyses each component in relation to the other. Thus, HLM can offer better statistical adjustments and more accurate estimations and promote better policies and practices.

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