

## ปัจจัยที่มีผลต่อการเลือกอาชีพของนิสิตชั้นปีที่ 4 คณะมนุษยศาสตร์และสังคมศาสตร์

มหาวิทยาลัยบูรพา: การวิเคราะห์การคาดถอยพหุคูณพหุระดับ

Factors Predicting Career Choices among Fourth-Year Students in the Faculty of

Humanities and Social Sciences, Burapha University:

A Multilevel Multiple Regression Analysis

ภัทรารดี มากมี<sup>1</sup> วรรณประภา เอี่ยมฤทธิ์<sup>2\*</sup> และ พรทิพย์ พันธุ์ยุรา<sup>3</sup>

Patrawadee Makmee<sup>1</sup>, Wannapapar Eiamrit<sup>2\*</sup> and Porntip Panyura<sup>3</sup>

(Received: March 6, 2024; Revised: April 25, 2024; Accepted: May 8, 2024)

### บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่มีผลต่อการเลือกอาชีพของนิสิตชั้นปีที่ 4 คณะมนุษยศาสตร์และสังคมศาสตร์ มหาวิทยาลัยบูรพา กลุ่มตัวอย่าง คือ นิสิตระดับปริญญาตรีชั้นปีที่ 4 จำนวน 420 คน จาก 14 หลักสูตร โดยการสุ่มตัวอย่างแบบง่าย เก็บรวบรวมข้อมูล ด้วยแบบสอบถามแบบมาตราประมาณค่า 5 ระดับ โดยมีค่าความทรงเชิงเมื่อหาอยู่ระหว่าง .67 - 1.00 ค่าอำนาจจำแนก ตั้งแต่ .20 - .65 และมีความเที่ยงเท่ากับ .91 วิธีทางสถิติที่ใช้คือ การวิเคราะห์การคาดถอยพหุคูณแบบพหุระดับ โดยใช้โปรแกรม Mplus version 8.10 ในการวิเคราะห์ข้อมูล

ผลการวิจัยพบว่า ปัจจัยที่มีผลต่อการเลือกอาชีพ มีค่าสัมประสิทธิ์แสดงการตัดสินใจที่มีผลต่อการเลือกอาชีพ คิดเป็นร้อยละ 53.60 ได้แก่ รายได้ครอบครัวเฉลี่ยต่อเดือน (.05) โดยมีนัยสำคัญทางสถิติระดับ .05 ประเภทอาชีพ (.16) และแรงจูงใจ (.72) มีนัยสำคัญที่ระดับ .01 ตามลำดับ ส่วนระดับหลักสูตรปัจจัยที่มีผลต่อการเลือกอาชีพ คิดเป็นร้อยละ 89.20 ได้แก่ ประเภทของอาชีพ (-.43) โดยมีนัยสำคัญทางสถิติที่ระดับ .05 และแรงจูงใจ (1.00) มีนัยสำคัญที่ระดับ .01 ตามลำดับ

**คำสำคัญ** การเลือกอาชีพ การวิเคราะห์การคาดถอยพหุคูณพหุระดับ อาชีพ แรงจูงใจ

<sup>1</sup> รองศาสตราจารย์ ภาควิชาวิจัยและจิตวิทยาประยุกต์ คณะศึกษาศาสตร์ มหาวิทยาลัยบูรพา

<sup>2</sup> อาจารย์ ภาควิชาสารสนเทศศึกษา คณะมนุษยศาสตร์และสังคมศาสตร์ มหาวิทยาลัยบูรพา

<sup>3</sup> อาจารย์ ภาควิชาสังคมวิทยา คณะมนุษยศาสตร์และสังคมศาสตร์ มหาวิทยาลัยบูรพา

<sup>1</sup> Associate Professor, Department of Research and Applied Psychology, Faculty of Education, Burapha University

<sup>2</sup> Lecturer, Department of Information Studies, Faculty of Humanities and Social Sciences, Burapha University

<sup>3</sup> Lecturer, Department of Sociology Science, Faculty of Humanities and Social Sciences, Burapha University

\* Corresponding Author E-mail: wannapapar@go.buu.ac.th

## Abstract

The purposes of this research were to study multilevel predictive factors and to create multilevel predictive equations affecting factors predicting career choices of fourth-year students at the Faculty of Humanities and Social Sciences, Burapha University. The sample consisted of 420 fourth-year undergraduate students from 14 courses by simple random sampling. A 5-point rating scale questionnaire was utilized, with content validity ranging from .67 to 1.00, item discrimination from .20 to .65, and reliability of .91. The statistical method employed was multilevel multiple regression analysis using the Mplus 8.10 program for analysis.

The results indicated that, at the student level, factors predicting career choices, which accounted for 53.60% of the variance, included average monthly family income (.05) with a statistical significance level of .05, while career type (.16) and motivation (.72) were significant at the .01 level, respectively. At the course level, which could predict 89.20% of the variance, factors included the type of career (-.43) with a statistical significance level of .05, and motivation (1.00) significant at the .01 level, respectively.

**Keywords:** career choice, multilevel multiple regression analysis, occupation, motivation

## Introduction

Thai educational system in the 21<sup>st</sup> century focuses on developing education to keep up with the modern era by attempting to equip the students with skills that are consistent with the 21<sup>st</sup> century career skills. According to the framework of the Partnership for 21<sup>st</sup> Century Skills Network, the 21<sup>st</sup> Century Skills include: (1) Knowledge about the world (Global awareness) (2) Learning and innovation skills determine career readiness (3). Information skills include information literacy, media knowledge, and technology know-how (4) Life and career skills, living and working in the present day to be successful (5) Skills for people in the 21<sup>st</sup> century that everyone must learn throughout their lives, consisting of learning 3R x 7 C, of which 3R means reading (Reading), writing (W), (Riting) and calculation as (A) Rithematics and 7C, including critical thinking skills, critical thinking and problem-solving skills, creativity and innovation skills, cross-cultural understanding skills, collaboration, teamwork and leadership skills, communication, information and media literacy skills, computing and ICT literacy skills, career and learning skills (American Association of Colleges of Teacher Education and the Partnership for 21<sup>st</sup> Century Skills,

2016). The 21<sup>st</sup> century skills set requires the students to adapt and develop the necessary skills that prepare them for the careers that they want in the future by choosing an occupation according to the theory of career selection criteria of Holland (1973) which states that a person's personality is reflected in their career choices. The reason for choosing a career is due to the combination of thoughts on yourself. and the understanding of the chosen occupation. Those who choose the occupation that best corresponds to their personality will gain satisfaction in the occupation and result in success in that occupation. Choosing an occupation reflects the relationship between professional personality and the person's environment. A person will search for the environment, the personality of the environment, congruence with their needs, differences, compatibility, and career expectations in line with one's own personality and work environment Including the theory of motivation from the concept of Herzberg et al. (1959), which believes that people or operators will work effectively and efficiently if they have job satisfaction because job satisfaction will increase interest in work and increase enthusiasm for work, hence will increase productivity, resulting in achieving work goals. These basic concepts give rise to factors affecting career choice.

A wide range of diverse career selections under the prevailing social conditions, developing learners' learning skills in the 21<sup>st</sup> century, and current technological advances open up opportunities for many new careers. If a person decides to choose a career that is inconsistent with their interests, aptitudes, or personality, they will be unhappy at work. Therefore, learners must consider choosing a career in line with their own needs. The selection of a career has many factors that come into consideration (Boonsathirakul, 2022). In the theory of vocational choice, an early concept that studies the relationship between background factors and career choice, it is believed that the ability to choose a career is different for each individual depending on various factors such as gender, age, education level, ideas, interests, aptitudes, abilities, experience, values, and personality. Ankhayot et al. (2021) studied factors influencing undergraduate student's career choice. They found that compensation, welfare, and stability in work Influenced undergraduate students' career choice aspirations.

The Faculty of Humanities and Social Sciences of Burapha University has a total number of 3,748 undergraduates and 14 undergraduate programs (Office of the Registrar Burapha University, 2023) which is considered to be the faculty with the most overall number of students

per year within the university. The faculty offers teaching in both humanities and social sciences. According to the employment survey conducted in the academic year 2019, almost all the graduates of the Faculty of Humanities and Social Science of Burapha University, upon completion of their studies, found employment within one year, Mostly in 4-6 months (34.05%). Most of the graduates ( 61.63%) chose to work in corporate/ private-business organizations,. The top three specialized skills which enhanced their success in finding employment were computer skills (55.96 %), foreign language skills (9.36 %), recreational activities (4.82 %). The employment area was mostly in Bangkok and its nearby cities ( 46.80%) and the eastern region of Thailand (39.90%). The researchers are interested in finding out what factors predict career choices that enable the students to get employment within one year after graduation; by considering at both the student and course levels. This study has chosen the Multilevel Multiple Regression Analysis research method because it is appropriate to analyze predictor variables that affect multiple levels of criterion variables, the authors collected data from fourth-year students of the Faculty of Humanities and Social Sciences of Burapha University and performed multilevel multiple regression the analysis to determine the factors predicting students' career choice in each course.

## Objectives

1. To study the factors predicting career choice of fourth year students in the Faculty of Humanities and Social Sciences of Burapha University.
2. To create a multi-level predictive equation for career choice of fourth-year students at the Faculty of Humanities and Social Sciences of Burapha University.

## Definition of Terminology

1. Career choice of a student means carefully choosing a job for oneself by using the decision-making process and analyzing the personality and environment of the fourth year students at the Faculty of Humanities and Social Sciences Burapha University within one year after graduation.
2. Motivation means internal motivation from personal factors such as family, and economic status and extrinsic factors such as society, economics, and the environment of the 4<sup>th</sup> year students that stimulate, motivate, or push the students to choose a career.

### Conceptual Framework

This study developed concepts from Hoppock's career selection theory (Hoppock, 1967), Holland (1973), professional choice theory, Schiffman's and Kanuk's attitude to career selection, Herzberg's motivational theory to formulate the research concepts that predicted career choices of the fourth year students in the Faculty of Humanities and Social Sciences, Burapha University. Predicting variables include locality of the graduates (LOC), grade point average (GPA), average income (AIN), occupation requirements in 1 year (ORY), type of career (TCA), and motivation (MOT), criterion variables refer to the factors that determine career choices (CAC), shown in Figure 1

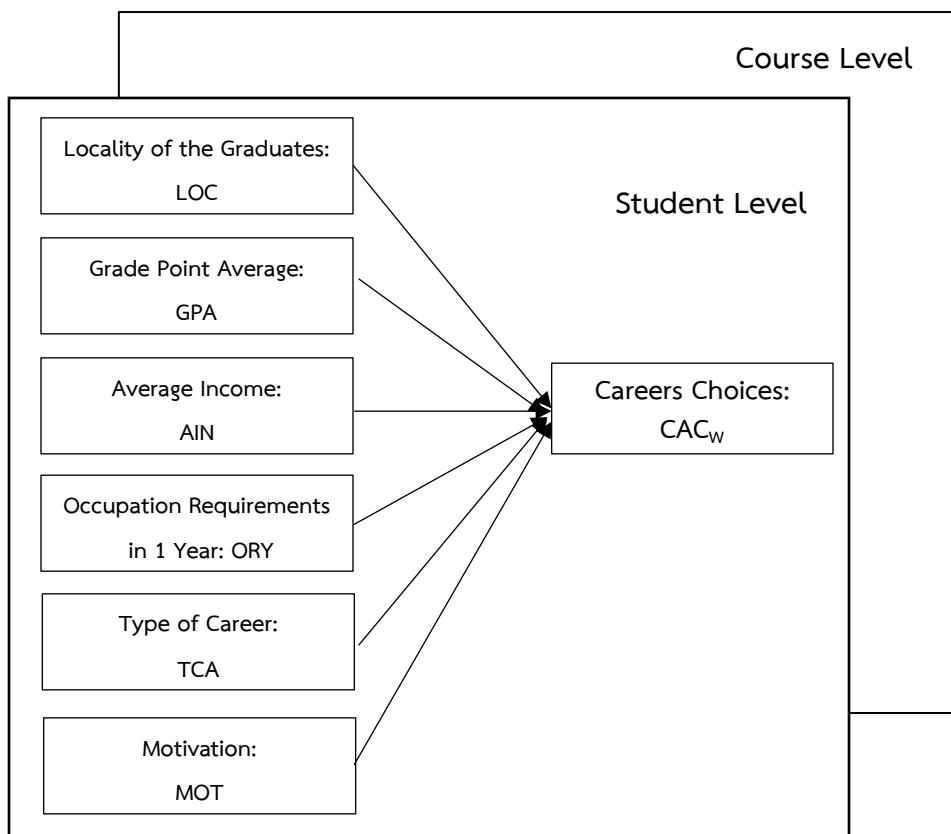


Figure 1 Conceptual framework

### Methodology

This research was cross-sectional survey research to analyze the factors predicting career choice of fourth-year students in the Faculty of Humanities and Social Sciences of Burapha University by collecting data from the students in 14 courses by simple random sampling method, 30 students from each program. The sample size was determined by the Rule of Thumb

criterion which stated that an acceptable sample size for a multilevel multiple regression analysis should be 200 samples at the student level (Hox, & Roberts, 2011). This research employed 6 predictive variables. Therefore, the researchers collected the data from 420 students in all the programs to comply with the recommendations and prevent errors during data collection (Hox, & Roberts, 2011; Snijders & Bosker, 1999 cited in Makmee, 2021).

Since this research was analyzed by multilevel multiple regression, the researchers, therefore, divided the samples according to the levels of predictor variables for analysis into 2 levels as follows.

1. Student level predictor variables: The samples consisted of fourth year students in each program.

The sample size was determined based on the concept of Hair et al. (2019) who proposed that the sample size could rely on many criteria together. The number of samples should be between 210-420 individuals. Therefore, the sample size was 420 individuals in this study.

2. Course level predictor variables. The sample consisted of the existing study programs at the Faculty of Humanities and Social Sciences at Burapha University, namely Cultural Resource Management, Social Service Management, Psychology, Communication Arts, History, Korean, Chinese, Japanese, Thai, French for Communication, English, Religion, Philosophy, Economics, and Information Studies, totaling 14 programs. The sample size for multilevel analysis should be more than 10 groups (Snijders & Bosker, 1999).

The research method adopted for this study is outlined below.

#### 1. Study variables

1.1 Predicting variables include locality of the graduates (LOC), grade point average (GPA), average income (AIN), occupation requirements in 1 year (ORY), type of career (TCA), and motivation (MOT)

1.2 Criterion variables refer to the factors that determine career choices (CAC). The questionnaire used contains 35 items requiring answers with a scale 1-5. For example, the organization has suitable remuneration and welfare, you choose your career by considering your skills, etc.

### **Research Instrument**

The instrument used for data collection was a questionnaire. The questionnaire was divided into two parts: Part 1 was a questionnaire on general information of the respondents, and Part 2 was a questionnaire on career selection factors and motivation for choosing a career. The score for part 2 had 5 levels. Then, the quality of the instrument was examined for content validity by 3 experts. It was found that all the questions had an index of item objective congruence between .67-1.00. Reliability verification was also conducted by using the questionnaire to collect data (try out) with a sample of 30 individuals with the results used for the Cronbach's alpha coefficient. It was found that the Cronbach Alpha value of the whole questionnaire was at .91, and the corrected item-total correlation between .20 - .65 which were considered to have passed all criteria for consideration.

After examination of the tools, for protection and defense of the rights of the sample group, the research project was proposed for consideration of human research ethics by the Burapha University committee. The research ethics number HU 014/2566 was approved. and the data were collected from online questionnaires by using Google forms the students of the Faculty of Humanities and Social Sciences.

### **Data Analysis**

Upon collecting data from the questionnaires, the researchers processed the data by statistical analysis as follows.

Part 1: Descriptive statistical analysis of the data was conducted using the Mplus 8.10 program to determine the percentage, and mean of the variables with quantitative measurement including the locality of the graduates (LOC), grade point average (GPA), average income (AIN), occupation requirements in 1 year (ORY), and type of career (TCA).

Part 2: Multilevel multiple regression analysis using the Mplus 8.10 program was carried out. The data analysis was divided into 2 levels based on the Mirror Effect Model (Makmee, 2016). Firstly, student-level analysis was conducted of the variables that follow: locality of the graduates (LOC), grade point average (GPA), average income (AIN), occupation requirements in 1 year (ORY), type of career (TCA), motivation (MOT). Secondly, course-level analysis was performed for variables that follow: domicile (LOC), grade point average (GPA), average family income (AIN), occupation requirement in 1 year (ORY), type of career (TCA), and motivation (MOT). The data

analysis first began with the determination of the intraclass correlation to confirm the validity of multilevel data analysis. The intraclass correlation (ICC) was found to have a value of 0.03. The value of ICC as suggested by Byrne (2012) should be between 0.0 and 1.0, and similarly, Lewis & Julios (2021) recommended ICC between .001 to 0.8, depending on the management of the sample group. At the student level, the sample group contained 420 individuals, and at the program level, the sample group consisted of 14 programs. According to Snijders & Bosker (1999), the sample group at the highest level must contain more than 10 groups.

## Results

As previously stated, the questionnaire was sent to 420 respondents who were 4<sup>th</sup> year undergraduate students of the Faculty of Humanities and Social Sciences of Burapha University. The response rate of the questionnaire was 100%. The results of general data analysis revealed that 39.50% of the sample were locality of the graduates (LOC) in the central region, 48.13% had a grade point average (GPA) of 3.01-3.50, 42.40 % came from the family with average income (AIN) between 15,001-30,000 baht, 83.60% wanted to start their career in 1 year (ORY). Overall, 83.60% decided to choose a type of career (TCA) in the private sector, 17% wanted to own a business, and 11% wanted to work in government service. The results are listed and described by courses in Table 1.

**Table 1** Results of general data analysis

Courses	Locality of the graduates (LOC)	Grade point average (GPA)	Average income (AIN)	Occupation requirements in 1 year (ORY)	Type of career (TCA)
Cultural resource management	central (40.00%)	2.51-3.00 (43.33%)	15,001-30,000 baht (50.00%)	86. 67 %	business owner (33.33%)
Social service management	east (50.00%)	3.01-3.50 (43.3 3%)	15,001-30,000 baht (56.67%)	90.00 %	government service (36.67%)
Psychology	central (46.67%)	3.50 or more (50.00%)	30,001-50,000 baht (33.33%)	93.33%	companies or private entities (93.33%)

Courses	Locality of the graduates (LOC)	Grade point average (GPA)	Average (AIN)	income in 1 year (ORY)	Occupation requirements in 1 year (ORY)	Type of career (TCA)
Communication Arts	central (50.00%)	3.01-3.50 (76.67 %)	15,001-30,000 baht (40.00%)	90.00 %	companies or private entities (66.67%)	
History	central (53.33%)	2.51-3.00 (56.67%)	30,001-50,000 baht (40.00%)	76.67%	companies or private entities (36.67%)	
Korean	east (40.00%)	3.01-3.50 (46.67%)	30,001-50,000 baht (36.67%)	73.33%	companies or private entities (60.00%)	
Chinese	east (40.00%)	3.01-3.50 (53.33%)	15,001-30,000 baht (50.00%)	86. 67%	companies or private entities (73.33%)	
Japanese	central (56.67%)	3.01-3.50 (63.33%)	Below 15,000 baht (30.00%)	76.67%	companies or private entities (63.33%)	
Thai language	central (33.33%)	3.01-3.50 (50.00%)	30,001-50,000 baht (33.33%)	86.67%	companies or private entities (40.00%)	
French for Communication	central (50.00%)	3.01-3.50 (53.33%)	15,001-30,000 baht (33.33%)	76.67%	companies or private entities (56.67%)	
Economics	east (30.00%)	2.51-3.00 (43.33%)	15,001-30,000 baht (46.67%)	80.00 %	companies or private entities (80.00%)	
English	central (43.33%)	3.01-3.50 (53.33%)	15,001-30,000 baht (46.67%)	90.00%	companies or private entities (60.00%)	

Courses	Locality of the graduates (LOC)	Grade point average (GPA)	Average (AIN)	income in 1 year (ORY)	Occupation requirements	Type of career (TCA)
Religion and philosophy	central (56.67%)	3.01-3.50 (50.00%)	15,001-30,000 baht (63.33%)	76.67 %	companies or private entities (46.67%)	
Information Studies	east (60.00%)	2.51-3.00 (50.00%)	15,001-30,000 baht (56.67%)	86.67%	companies or private entities (56.67%)	

The results of the multilevel multiple regression analysis of factors affecting career choice of 4<sup>th</sup> year students, Faculty of Humanities and Social Sciences of Burapha University are shown in Table 2

**Table 2** Standard scores of the multilevel multiple regression analysis

Variables	Weight		
	$\beta$	SE	t
Within	LOC	.06	0.03
	GPA	.05	0.04
	AIN	.05	0.02
	ORY	-.04	0.03
	CAT	.16	0.03
	MOT	.72	0.03
$R^2=0.536$			
Between	LOC	.51	0.56
	GPA	.47	0.45
	AIN	.34	0.30
	ORY	.22	0.27
	CAT	-.43	0.19
	MOT	1.00	0.35
$R^2=0.892$			

Table 2 shows the results of multilevel multiple regression analysis of predictor factors affecting career choices of fourth-year students in the Faculty of Humanities and Social Sciences of Burapha University using Mplus program. It was found by considering the statistical values

used to verify the validity of the model, including  $\chi^2 = 0.31$ ,  $df = 2$ ,  $\chi^2/df = 0.16$ ,  $p = 0.86$ ,  $CFI = 1.00$ ,  $TLI = 1.02$ ,  $SRMR_w = 0.00$ ,  $SRMR_b = 0.01$ ,  $RMSEA = 0.00$ , that the predictor factors can predict the career choices. The p-value was sufficiently large to not reject the hypothesis. The value of  $\chi^2$  insignificantly differed from zero, implying that the hypothesis was acceptable. This was consistent with the result of the CFI index that was close to 1 and the TLI value was greater than 1 (Muthen & Muthen, 2013). The RMSEA and SRMR index values were close to 0 and  $\chi^2/df$  was not more than 2. (Prasertcharoensuk et al., 2020; Makmee, 2023).

The results of the analysis of multilevel multiple regression analysis of predictive factors affecting career choice of fourth-year students at the Faculty of Humanities and Social Sciences Burapha University revealed the following. On considering the coefficient ( $\beta$ ) of all predicting variables at the student level, it was found that the coefficient ( $\beta$ ) of average monthly family income (AIN) had a value of .05 with a statistical significance level of .05, whereas those of career type (TCA), motivation (MOT) were respectively .16, and .72 with the significance level of .01. The coefficient of prediction was  $R^2 = 0.536$ . Therefore, the variables with a positive influence on career choices consisted of average monthly family income, career type, and motivation.

When the coefficient ( $\beta$ ) of all 6 predicting variables was considered at the course level, it was found that the coefficient ( $\beta$ ), type of career (TCA) ( $\beta = -.43$ ) had a statistical significance at the .05 level, and motivation (MOT) ( $\beta = 1.00$ ) at the .01 level and had prediction coefficient  $R^2 = 0.892$ . Therefore, the positively influencing variable was motivation, while the type of career variable had a negative influence.

The multilevel multiple regression data standard score analysis of the factors predicting career choices of fourth year students of the Faculty of Humanities and Social Sciences of Burapha University can be written as equations as follows:

The student level analysis can predict with 53.60% accuracy ( $R^2 = 0.536$ ).

$$\hat{Z}_{CAC} = .06 Z_{LOC} + .05 Z_{GPA} + .05^* Z_{AIN} - .04 Z_{ORY} + .16^{**} Z_{TCA} + .72^{**} Z_{MOT}$$

The course level analysis can predict with 89.20% accuracy ( $R^2 = 0.892$ ).

$$\hat{Z}_{CAC} = .51 Z_{LOC} + .47 Z_{GPA} + .34 Z_{AIN} + .22 Z_{ORY} - .43^* Z_{TCA} + 1.00^{**} Z_{MOT}$$

From the equations of standard scores, details of predictive models for career choice of fourth-year students at the Faculty of Humanities and Social Sciences can be presented as shown in Figure 2.

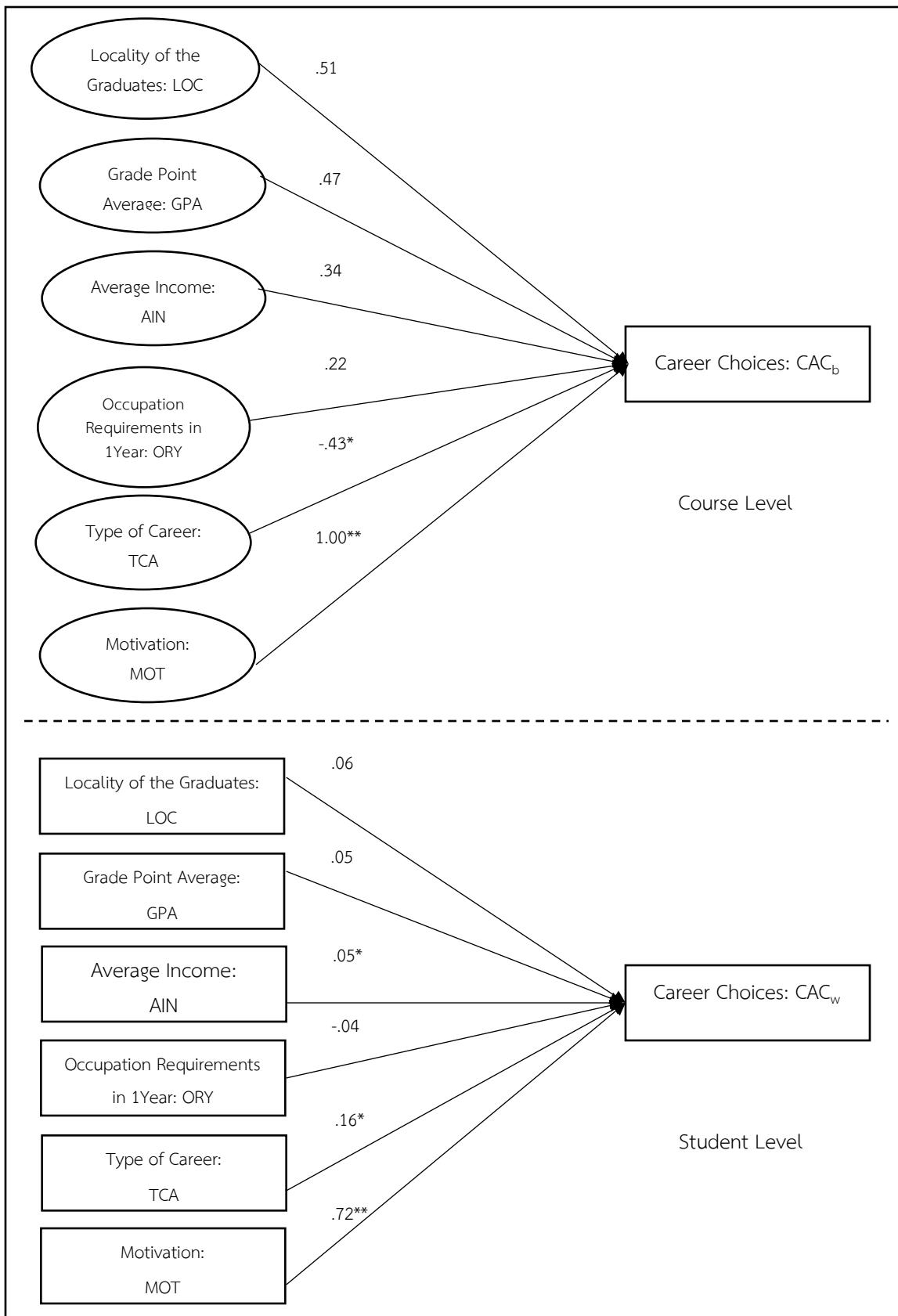


Figure 2 Career choice prediction model

## Discussion

The results of this research revealed that the factors that could predict the career choice of the students at the student level and course level from standard scores could be investigated by employing multilevel multiple regression analysis (Muthen, 2011; Kanjanawasee, 2007). The analytical results revealed higher value on the motivation factor (MOT). The finding of this study was consistent with the research of Chimkaew and Phupattanapong (2021) who studied the motivation factor affecting the career decision-making process of undergraduate students of Ramkhamhaeng University. It was found that the motivation factor was in general related to the decision making process of undergraduate students of Ramkhamhaeng University. Similarly, the result agreed with the research of Kudumrongsawat (2020) who found that the motivation factor influenced the career choice of 4<sup>th</sup> year undergraduate students of Kasetsart University at Bangkhen Campus and their career choice followed the theory of motivation (Herzberg et al., 1959). The theory discusses the motivation that affects work or induces a person to act or perform a task.

Comes with a lower weight, type of career (TCA) at the student level was positive but was negative at the course level, consistent with the research of Kaewka et al. (2022) who analyzed factors affecting job selection of students who were about to graduate in the Bachelor's degree program in the Faculty of Management Science of Loei Rajabhat University. In general, it was found that the factors of job characteristics that indicated, at the student level was type of career in various types of organizations, including private agencies, government agencies, government enterprises, etc., influenced the students' career choices. The result also agreed with the work of students who first decided to choose a career in a company or a private shop, followed by one's own work or self-employment, and the public sector, respectively (Waisriseang, 2009).

In addition, student-level analysis revealed that the factor of average income (AIN) also influenced the students' career choices. This was consistent with the research of Thaotiam (2022) who studied the factors related to preparation before entering the labor market of 4th year undergraduate students in the Social Development Management Program of Suan Sunandha Rajabhat University. It was found in his study that parents' incomes were related to students' career choices upon graduation. Similarly, the research of Roddang et al. (2022) discovered that the monthly income of the family affected the career choice of the final-year students in Bangkok and its vicinity.

The predictive factors that were not statistically significant both at the student level and at the program level included such factors as locality of the graduates, grade point average, and the desire to get a job within 1 year. This might be because of the satisfaction of the person, the ability, and the existing situation which influenced the concepts and thinking on career choices. Decisions on careers can change over time and with experience. Such decisions always change according to Super's career development theory (Super, 1957). The current economic and social conditions may cause students to consider other more important factors. They investigated factors influencing the career choices of undergraduate students of Nakhon Ratchasima Province and found that the factors were the factors of work security, remuneration and welfare, career advancement, and job characteristics, all of which were the main economic factors (Ankhayot et al., 2021). And it is in line with Sribal's (Sribal, 2019) study of student career planning among the students of the Faculty of Fine and Applied Arts of Thammasat University, Rangsit Campus which found that academic achievements and average family income similarly affected career planning of students in the Faculty of Fine and Applied Arts. Similarly, the research of Sawangsang (2019) revealed that the average grade and family income did not influence the career choices of undergraduate students of Mahasarakham University and this was consistent with Chimkaew & Phupattanapong (2021) who studied the motivation factors affecting career decision-making process of undergraduate students of Ramkhamhaeng University and found that GPA did not influence career choices. At this point, it is worth mentioning that the result of other work conducted overseas indicated that the most important factor that influenced career choices of graduates in various disciplines was incentive-related (Mohebbi et al., 2021; Akosah-Twumasi et al., 2018; Šnýdrová et al., 2019; Zulfikarijah & Mohyi, 2022)

## Recommendations

### 1. Recommendations from the current research

1.1 Recommendations for the Faculty of Humanities and Social Sciences, Burapha University

Curriculum development should be in line with the student's career needs using a proactive approach, focusing on teaching and learning that respond to career needs. Motivation and knowledge about various careers to serve as a guideline for students should be built into the curriculum.

### 1.2 Recommendations for scholars and researchers

Future career needs of the students should serve as a guideline for the university in the development of curriculum as well as the management of co-operative education to ensure proper guidance for individual graduates in their career choice,

## 2. Recommendations for the further studies

In-depth study on the factors and other related research should be considered since it was found in this study that the factors that are related to incentives could positively predict career choices of the graduates with statistical significance at both the student level and course level.

2.1 Components or research related to student's career choice motivation should be studied in depth. In this research, it was found that motivational factors can predict students' career choices with the most positive statistical significance at both the student and course levels.

2.2 Current job markets should be studied to be consistent with the needs of the job market situation which varies according to the prevailing economic and societal context.

2.3 A qualitative research or mixed-methods research that affects career choice to cover the internal and external factors of each individual that affect students' career choice is worth considering.

## References

Akosah-Twumasi, P., Emeto, T., Lindsay, D., Tsey, K., & Malau-Aduli, B. S. (2018). A Systematic review of factors that influence youths career choices—the role of culture. *Systematic Review*, 3, 1-15. <https://doi.org/10.3389/feduc.2018.00058>

American Association of Colleges of Teacher Education and the Partnership for 21<sup>st</sup> Century Skills. (2016). *21<sup>st</sup> Century knowledge and skills in educator preparation*. [www.p21.org/storage/documents/aacte\\_p21\\_whitepaper2010.pdf](http://www.p21.org/storage/documents/aacte_p21_whitepaper2010.pdf)

Bentler, P. M., & Chou, C. (1987). Practical issues in structural modeling. *Sociological Methods and Research*, 16, 78- 117.

Byrne, B. M. (2012). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. Routledge.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson R. E. (2019). *Multivariate data analysis* (7th ed.). Pearson.

Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). *The motivation to work* (2nd ed.). John Wiley.

Holland, J. L. (1973). *Making vocational choices: A theory of careers*. Prentice-Hall.

Hoppock, R. (1967). *Theories of occupational choice and careers development occupational information* (4th ed.). McGraw-Hill.

Hox, J. J. (1995). *Applied multilevel analysis*. TT- publikaties.

Hox, J. J. (2002). *Multilevel analysis: Techniques and applications*. Erlbaum.

Hox, J. J., & Robert, J. K. (2011). *Handbook of advanced multilevel analysis*. Routledge.

Lewis, J., & Julious, S. A. (2021). Sample sizes for cluster- randomized trials with continuous outcomes: Accounting for uncertainty in a single intra-cluster correlation estimate. *Statistical Methods in Medical Research*, 30(11), 1916-1927.

Makmee, P. (2021). Development of learning and innovation skills assessment criteria for upper secondary school students: A multilevel confirmatory factor analysis using mixed-method design. *Kasetsart Journal of Social Sciences*, 42(2), 319-324.  
<https://doi.org/10.34044/j.kjss.2021.42.2.16>

Makmee, P. (2023). Future skills of tertiary students required for industry in the eastern special development zone of Thailand. *The Journal of Behavioral Science*, 18(1), 1-16.

McDonald, R. P., & Marsh, H. W. (1990). Choosing a multivariate model: Noncentrality and goodness of fit. *Psychological Bulletin*, 107(2), 247-255. <https://doi.org/10.1037/0033-2909.107.2.247>

Mohebbi, S.Z., Gholami, M., Chegini, M., Ghoreyshi, Y., Gorter, R. C., & Bahramian, H. (2021). Impact of career choice motivation on academic burnout in senior dental students: A cross-sectional study. *BMC Med Educ*, 21, 52. <https://doi.org/10.1186/s12909-020-02475-w>

Muthen, B. O. (2011). *Applications of causally defined direct and indirect effects in mediation analysis using SEM in Mplus*.  
<https://www.statmodel.com/download/causalmediation.pdf>

Muthen, B. O., & Muthen, L. K. (2013). *Mplus program*. <https://www.statmodel.com/>

Prasertcharoensuk, T., Chaiwan, J., Tang, K. N., & Makmee P. (2020). A causal relationship model of primary public-school students' achievement: A multiple group analysis. *Pertanika Journal of Social Science and Humanities (JSSH)*, 28(4), 3003-3024.

Schiffman, L.G., & Kanuk, L.L. (1994). *Consumer behavior*. Prentice-Hall.

Sharma, S., Pradhan, K., Satya, S., & Vasudevan, P. (2005). Potentiality of earthworms for waste management and in other uses – a review. *The Journal of American Science*, 1(1), 4-16.

Snijders, T.A.B., & Bosker, R. J. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling*. Sage Publications.

Šnýdrová, M., Vnoučková, L., & Šnýdrová. (2019). Factors affecting choice of employment by University Graduates *SciPap*, 27(2). <https://editorial.upce.cz/1804-8048/27/2/998>

Super, D. (1957). *The psychology of career*. Haper and Row Publisher.

Zulfikrijah, F., & Mohyi, A. (2022). Career choice of the students, What is Important?. *Journal of Career and Entrepreneurship*, 1(2), 44–58. <https://doi.org/10.22219/jce.v1i2.22605>

### Translate Thai References

Ankhayot, T., Khanthanee, S., & Khampitak, N. (2020). Factors affecting the demand of the bachelor degree students' job decision in Nakhon Ratchasima Province. In *NNCCOM 2020: The 17th National Conferences Nakhon Ratchasima College* (pp.168-176). Nakhon Ratchasima College. (in Thai)

Boonsathirakul, J. (2022). Career preparation for students in the 21<sup>st</sup> century. *Journal of Kasetsart Educational Review*, 36(2), 1-11. (in Thai)

Chimkaew, T., & Phupattanapong, K. (2021). *Motivation factors influencing to career decision making process of undergraduated students in Ramkhamhaeng University* [Master's thesis]. Ramkhamhaeng University. [http://www.ba-abstract.ru.ac.th/AbstractPdf/2561-2-1\\_1564637248.pdf](http://www.ba-abstract.ru.ac.th/AbstractPdf/2561-2-1_1564637248.pdf) (in Thai)

Faculty of Humanities and Social Sciences, Burapha University. (2023). *Report on the employment situation of graduates Faculty of Humanities and Social Sciences Burapha University*. Burapha University. (in Thai)

Kaewka, C., Klinsukhon, S., & Kamkaew, R. (2022). Factors influencing the choices of jobs for the undergraduates of the Faculty of Management Science at Loei Rajabhat University. *Research and Development Journal Loei Rajabhat University*, 16(60), 62-72. (in Thai)

Kanjanawasee, S. (2007). *Multi-level analysis* (4th ed.). Faculty of Education Chulalongkorn University. (in Thai)

Kudumrongsawat, N. (2020). *Career selection of 4th year undergraduate students in Kasetsart University*. <https://mmm.ru.ac.th/MMM/IS/mlw12/6114961093.pdf> (in Thai)

Makmee, P. (2016). Development of a model of public organizational effectiveness measurement in ASEAN: Multilevel structural equation model analysis. *Journal of the Association of Researchers*, 21(1), 34-48. (in Thai)

Office of the Registrar Burapha University. (2023). *Number of students in the Faculty of Humanities and social science*. <https://reg.buu.ac.th/registrar/stat.asp?av50529561=1> (in Thai)

Roddang, N., Tooprajank, S., & Charoenwiriyakul, C. (2022). The decision-making in choosing the career of undergraduate students in Bangkok and Vicinity. *The Journal of Development Administration Research*, 12(4), 732-742. (in Thai)

Sawangsang, P. (2019). Factors affecting career decisions in bachelor programs of Mahasarakham University. *Journal of Humanities and Social Sciences Mahasarakham University*, 38 (2), 85-92. (in Thai)

Sribal, A. (2019). *Occupational planning of students at The Faculty of Fine and Applied Arts, Thammasart University* [Master's thesis]. Thammasart University. (in Thai)

Thaotiam, C. (2022). Factors related to pre-entry into the job market of undergraduate students in the fourth year of social development management Suan Sunandha Rajabhat University. In *The National Research Presentation of Humanities and Social Sciences Students Conference 2<sup>nd</sup>* (pp. 1576-1587). Suan Sunandha Rajaphat University. (in Thai)

Waisriseang, J. (2009). *Factors affecting decision making of undergraduate students in public and private university on occupation selection in Bangkok* [Master thesis]. National Institute of Development Administration. (in Thai)