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## EDUCATIONAL ASSESSMENT & EVALUATION | RESEARCH ARTICLE

# The relationship of student's motivation, program evaluation, career attitudes and career aspirations in university–industry cooperation program

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**Abstract:** The number of university–industry cooperation programs has increased rapidly over the last few years. Research in this field is sparse. This study therefore explores this gap with particular focus on the relationship of student motivation, evaluation of program, students' attitudes and career aspirations in tourism and hospitality university–industry cooperation program. Using students from a university–industry cooperation program in Macau as a sample, this study collected 151 usable questionnaires from undergraduate students. The finding of this study enriched the knowledge of the education system relative to students' behaviors. The implications and recommendations for both hospitality educators and practitioners were also discussed.

**Subjects:** Educational Research; Education Studies; Assessment; Higher Education Management; Study of Higher Education; Teaching & Learning; Sustainability Education, Training & Leadership

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### PUBLIC INTEREST STATEMENT

Macau tried to develop a diverse economy. University education was an important tool to transform Macau from “localization” to “globalization” and connecting the East and the West. The number of university–industry cooperation programs has increased rapidly over the last few years. Research in this field is sparse. This study therefore explores the relationship between student motivation, evaluation of program, students' attitudes and career aspirations (career commitment) in tourism and hospitality university–industry cooperation program. This study found that student motivation affects career aspiration directly and indirectly, while program evaluation affects career aspiration indirectly. Therefore, to encourage more students to commit into tourism and hospitality industry, interested parties, such as government or tourism and hospitality providers, should develop more programs to increase the motivation of students.

| **Keywords:** motivation; program evaluation; career attitudes; career aspirations; internship

### 1. Introduction

As internship was gaining attention, not only from the students' practical perspective, but also from academic, many researchers and education designers developed a number of models and approaches to design internship. Internship referred to placing student in one or more private or non-private organization for a certain period (Yiu & Law, 2012). Given the popularity of internship, many university degrees of different subjects offered internship to the students. The internship was particularly common within tourism and hospitality program (Van Hoof, 2000). Recently, internships have not only increased their popularity, but also increase their significance (Yiu & Law, 2012) due to their ability to value-add and contextualize what students had learned in class through practice in the actual situation (Busby, 2003; Cho, 2006; Lam & Ching, 2007; Ruhanen, Robinson, & Breakey, 2013; Walo, 2001; Waryszak, 1999). Hence, the perspectives of students toward internship were important to academics and education designers, especially when internships was more commonly referred to as an essential part of the collegiate experience instead of a complement to the lectures (Collins, 2002).

More precisely, the internship was defined as the collaborative arrangement between education institutions and organization on students' practice in the real world. It was originally designed as an experimental program to provide professional experience to students and allow students to apply, integrate, and consolidate academic theories in class to real world institutions (Chang & Chu, 2009; Lam & Ching, 2007). The length of internships could range from several weeks to one year and it could involve several placements. Besides internships, other programs which integrate work and academic learning included field visits, study tours, industry projects, case studies, sandwich placements, and mentoring (Yiu & Law, 2012).

In 2012, the Faculty of International Tourism and Management at City University of Macau developed an innovative university–industry partnership different from common internship programs. On one hand, similar to usual internship programs, local supporting companies would invite students to work/intern in the tourism industry. On the other hand, students who were admitted to the program would not only have their tuition covered by the sponsors, but also receive allowances for living expenses according to the position students worked (City University of Macau, 2015). In addition, students in this program had to work and study simultaneously. To accommodate the usual time conflict when students participate internships, a special administrative staff would arrange the work-class schedule for the students. Instead of a relatively short internship experience, students in this program would be able to accumulate work experience simultaneously while they were completing their university degree (Luo & Lam, 2019). Ever since, other similar university–industry program emerged. For example, Learning Academy, an in-house training center of Melco Crown Entertainment, decided to joint force with the University of Macau to provide a free Casino Management Diploma to its staff. The program accepted 43 students. Students would attend two 2.5-hour classes a week after work. The duration of the program is a 1 year (Melco Crown Entertainment, 2015).

Macau tried to develop a diverse economy. University education was an important tool to transform Macau from localization to globalization and connecting the East and the West (Kozlakidis, 2018). Many university–industry cooperation undergraduate programs were developed. However, the quality of these programs were unknown (Luo, Chau, Lam, Huang, & Kou, 2018). In addition, the attitude of workers was important to the success of companies in retaining the loyalty and satisfying the needs of consumers (Richardson, 2009; Zeithaml & Bitner, 1996). Organizational commitment and job satisfaction were important ingredients affecting attitudes at work (Huang & Hsiao, 2007). A negative attitude would affect the work choice of students as well as other concern parties, such as government and university, which are the main providers of tourism and hospitality education (Kusluvan & Kusluvan, 2000; Luo, Lee, & Qiu, 2015).

There are few studies about such university–industry program where participants are both employees and students simultaneously. In particular, this study would like to investigate: Why students decided to enroll in this program; What are the learning outcomes; and What are their attitudes toward tourism and hospitality industry? Therefore, this study tries to explore the relationship of student motivation, evaluation of program, students’ attitudes and career aspirations in tourism and hospitality university–industry cooperation program.

## 2. Literature review

### 2.1. Motivation

Many researchers had studied the decision-making process, particularly the motivation, of a university degree in social sciences (Ali & Tinggi, 2013; Cabrera & La Nasa, 2000; Hossler & Gallagher, 1987; Perna, 2006; Pitre, Johnson, & Pitre, 2006). These papers described motivation as prestige, job opportunities and corresponding salaries, working environment, admission scores, external advice, personal interest, and lifestyle. Furthermore, these researches distinguished intrinsic and extrinsic motives according to Ryan and Deci (2000). Intrinsic motives were described as pleasure, vocation, and the satisfaction of the participants. Extrinsic motives were described as recognition external to the activity. Sia (2010) identified several institutional factors that affect the choice of students, such as: location, reputation, and a tuition fee of the institution, the existence of different education facilities, the nature of the program and the promotion of university representatives, campus visits, and scholarship opportunities.

Compared to tourism and hospitality degree in the study of the internship program studies, there were more researches that studied university choice, future career development and tourism (Chang & Tse, 2015; Richardson, 2009, 2010). For example, O’Mahony, McWilliams, and Whitelaw (2001) studied the motivation of choosing tourism and hospitality degree in Australia. The researchers found that the most common reason within the social, cognitive and personal aspects was career purpose. Kim, Guo, Wang, and Agrusa (2007) expanded the studies to include students from China, Taiwan, and Korea. The authors identified the corresponding factors that affect the choice of tourism and hospitality degree were personal interest and future opportunities. Lee, Kim, and Lo (2008) further studied the same topics in Hong Kong and United States, respectively. Both researches identified future opportunities and self-actualization as the most important reasons.

### 2.2. Program evaluation

Traditionally, educational institutions in the United States and Australia had developed systemic methods to examine the quality of the course and teaching. Many United Kingdom educational institutions adopted similar methods. The most common method of evaluation in US, UK, and Australia was feedback from students (Hoyt & Perera, 2000).

There were many aspects of student evaluation. Richardson (2005) classified the evaluation into a spectrum. At one end, students could evaluate the performance of a particular teacher or lecture. At the other end, students could evaluate the whole system of university education. In between, the evaluation could be on the program, the department, and the institution. The precise evaluation to be conducted depended on the purpose. From the perspective of this study, the focus was the experience of students of a program, rather than an individual module. Accordingly, this study adopted the literature from Australia and UK regarding students’ evaluation of their programs.

Many of the researches adopted the Course Experience Questionnaire (CEQ) developed by Ramsden’s (1991). Participants would evaluate 31 items related to the subject of assessment using a five-point Likert scale, with 5 indicating “definitely agree” and 1 indicating “definitely disagree”. The first 30 statements are related to the teaching quality of a particular program, such as Good Teaching, Clear Goals and Standards, Appropriate Workload, Appropriate Assessment, and Emphasis on Student Independence. The last statements asked students’ overall

satisfaction. Downie and Möller (2002) used the CEQ to evaluate courses in hospitality, leisure, sports and tourism in UK. The final version was distributed to 634 students in 2001 to evaluate the advantages and disadvantages of the program within the subject areas.

Plucker (1998) reported that career aspiration was affected by academic performance, health, attrition and leadership skills. Wang and Staver (2001) discovered a positive relationship between program evaluation and career aspiration. Furthermore, Wall, Covell, and MacIntyre (1999) found a positive relationship between educational expectation and career aspiration. More recently, Seth (2016) found the quality of the training program affected career aspiration positively. However, the above researches studied the relationship between program evaluation and career aspiration without incorporating motivation and career attitudes.

### **2.3. Career attitudes**

Despite there was no common consensus, Eagly and Chaiken (1993) argued that most researchers agreed that there were some attitudes and tendencies to assess entities, such as individuals, inanimate objects, concepts, social groups, nations, social policies, and behaviors, with some favor. Similarly, Ajzen (1993) described attitudes as dispositional reacting with various levels of favorableness. Attitudes were a significant factor to explain and forecast behavior. However, there was no common consensus on the relationship between attitudes and behavior. On one hand, some researchers found a moderate level of relationship between attitudes and behavior (McGuire, 1985). On the other hand, other researchers found that attitudes could not fully explain behaviors under all circumstances. Since there were many environmental, situational and conditional constraints, the relationship between attitudes and behavior was not exact (Ajzen, 1993; Eagly & Chaiken, 1993; McGuire, 1985). Despite different research findings, most researchers agreed that there was a consistent relationship between attitudes and behavior (Ajzen & Fishbein, 1980).

Researchers from the hospitality and tourism industry also conducted researches on the relationship between perceptions and attitudes. The researches could be classified into three groups based on the sample. The first group studied the attitudes of secondary- and high-school students. The second group studied the attitudes of existing tourism industry workers. The third group studied concurrent tourism and hospitality students (Kusluvan & Kusluvan, 2000). Kusluvan and Kusluvan (2000) developed a nine-dimensional scale to define the construct. The dimensions included nature of work, social status, physical working condition, pay benefits, promotion, co-workers, managers, industry-person congeniality, and commitment to the industry. Teng (2008) adopted this measurement scale to study the attitudes of students toward hospitality jobs in Taiwan using exploratory factor analysis. The researchers identified “working conditions”, “industry-person congeniality”, “interpersonal relationships”, “interpersonal relationships”, “organizational climate”, and “nature of work”.

### **2.4. Career aspirations**

The attitudes of participants, as well as the commitment, toward a particular industry were defined as a career aspiration (Getz, 1994; Ross, 1992; Teng, 2008). As an employee attained competitive advantage, the commitment of employees toward the organization became more important (Kusluvan & Kusluvan, 2000). Organization’s commitment was not a one-factor construct (Cohen, 2003). Many scholars proposed several classifications. For instance, Salancik and Staw (1982) classified organizational commitment into two commitments. The first was attitude commitment. When a worker understood the value and the objective of the company and was willing to commit to the objective, the worker was viewed to possess attitude commitment. The second was behavior commitment. When a worker committed to the organization due to the other reasons, such as status and pension, then the worker was viewed to possess a behavioral commitment. Meyer and Allen (1991) further classified attitude commitment into emotional commitment, continuous commitment, and normative commitment. Emotional commitment was a people’s attachment to the organization. Continuous commitment was the matching people’s belief and the belief of the organization. Normative commitment was commitment based on responsibility and obligation. As the level of

organizational commitment increased, employees' had closer ties to the organization and had a lower turnover rate (Sušanj & Jakopec, 2012).

A review of literature suggested interrelationship between the four constructs: motivation, program evaluation, career attitudes, and career aspirations. Based on the pervious literature review, the theoretical model and six hypotheses can be depicted in Figure 1.

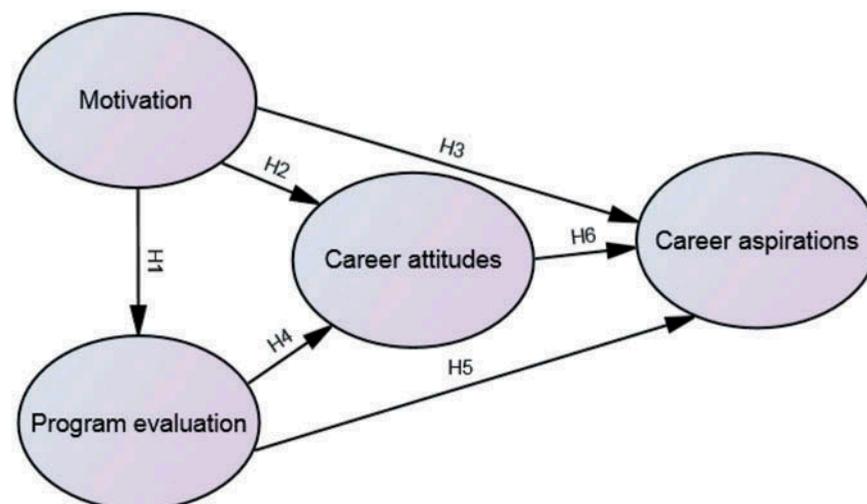
- H1: Motivation has a positive influence on program evaluation.
- H2: Motivation has a positive influence on career attitudes.
- H3: Motivation has a positive influence on career aspirations.
- H4: Program evaluation has a positive influence on career attitudes.
- H5: Program evaluation has a positive influence on career aspirations.
- H6: Career attitude has a positive influence on career aspirations.

### 3. Method

This study developed a self-administered questionnaire based on the literature review. The questionnaire was reviewed by three expert panels. The panels included one HR manager from Crown Plaza Macau, one Senior Vice President from Galaxy and one professor from the City University of Macau. The goal was to create a panel sufficiently representing the industry and academia. The pilot test of the questionnaire was conducted with 30 students. Based on the comments from the students, researchers revised the questionnaire. There were two sections in the questionnaire. The first section asked the respondents' demographic information. The second section assessed the attitudes dimensions toward employment in tourism and hospitality industry in Macau. The questionnaire used a five-point Liker-type scale, ranging from 1, which indicated strongly disagree, to 5, which indicated strongly agree. This study used four scales. They were:

- **Study of Motivation:** This scale was based on the research from Lee et al. (2008). The researchers used this scale to evaluate students' motivation. There were six items in this scale. Examples of this scale included "I have guaranteed jobs" and "I have industrial experience".
- **Program evaluation:** This scale was created by Downie and Möller (2002) based on the CEQ developed by Ramsden (1991). Downie and Möller (2002) used this scale to evaluate the program. There were seven items in this scale. Example of this scale included "I am able to

Figure 1. Proposed model.



use a wide range of routine and some advanced skills in interpreting numerical and graphical data to achieve goals and targets”.

- **Career Attitudes:** This scale was created based on the results of Teng (2008) and Kusluvan and Kusluvan (2000). There were 10 items in this scale. The items included working conditions, and industry-person congeniality. Examples of scale items included “I think that the pay for most the hospitality and gaming jobs sufficient to lend a satisfactory life” and “Working environments are generally good in the hospitality and gaming industry”.
- **Career aspirations:** This scale was created based on Teng (2008). There were four items in this scale. This scale was designed to measure how likely students will take a hospitality career in the future. Examples of scale items were “I believe I can advance my career in the hospitality and gaming industry” and “It would be wrong decision to choose hospitality and gaming industry as a career path”.

To examine the relationships between unobservable constructs with data appropriately (Hair, Black, Babin, Anderson, & Tatham, 2010), this study used Structural Equation Model (SEM). The software used to analyze the data was AMOS 22.0. The method of estimation was Maximum Likelihood estimation. The EFA results for the first data set were determined by factoring principal axis and rotating Promax. Items with factor loadings below 0.45 and communalities less than 0.5 were removed (Comrey & Lee, 1992). A correlation matrix examined the inter item correlation and they were found substantial ( $>0.30$ ). The factor reliability was analyzed through Cronbach’s alpha and item to total correlation. The Cronbach’s alpha was 0.923. The Kaiser–Meyer–Olkin (KMO) test and the Bartlett’s test of sphericity were found significant at 0.0001. All factor loading were greater than 0.6. As a result, 27 items were included in the scale and were used for the main survey. The choice of sampling was based on convenient sample. The questionnaire was distributed to all undergraduate students who studied in gambling management and hotel management. A total of 200 questionnaires were distributed to respondents, and 151 usable questionnaires, which represented a response rate of 75.5%, were collected. There were 66 (43.7%) female and 85 (56.3%) male among the respondents. The main age group was 20 (29.1%), followed by 19 (19.9%), 18 (16.6%), 21 (13.9%), 22 (11.3%), and 23 or above (9.2%). There were 39.7% respondents who are year 4 student, 21.9% are year 1, 19.9% are year 3, and 18.5% are year 2. For the study major, there were 60 (39.7%) on gambling management and 91 (60.3%) on hotel management.

## 4. Results

### 4.1. Confirmatory Factor Analysis (CFA) results

The constructs were analyzed by confirmatory factor analysis (CFA). CFA could be used to verify the property of the measurement scale. If the coefficient alpha of a measurement item was less than 0.30, the corresponding measurement item should not be included in the model (Jöreskog, 1993). All constructs included in the model have the following properties: they could specify the relationship between the latent constructs and their indicators, obtain a coefficient alpha exceed 0.7, and thereby one indicators in program evaluation. As a result, five indicators from career attitudes and two indicators from career aspiration were removed.

Next, the overall measurement model fit was tested. CFA was performed to test whether collected data fit the proposed model (Byrne, 2013). Nineteen indicators (six from motivation, six from program evaluation, five from career attitudes, and two from career aspirations) were used in the measurement model. The results of CFA indicated an acceptable goodness of fit. The chi-square value was 227.978 with 146 degrees of freedom ( $p < .000$ ), which showed that the model was not good enough. However, according to Bollen and Long (1993) and Byrne (2013), chi-square statistics were sensitive to the sample size. The RMSEA value was .061, which satisfied the goodness-of-fit requirement (Byrne, 2013). Other indices, such as NFI, CFI, GFI, TLI, and RMR, showed the goodness of fit was acceptable (NFI = .857, CFI = .940, GFI = .857, TLI = .930, RMR = .043). Therefore, no further modification was required.

To examine the reliability of the construct, this study examined the discriminant and convergent validity of the construct using completely standardized loading, construct reliability, the error variance, and the average variance extracted (AVE). Table 1 shows the summary of the above results. The  $p$ -value of the standardized loading were all less than 0.05. Despite the AVE of involvement, all AVE of the remaining constructs, motivation, program evaluation, career attitudes, and career aspirations) were above the minimum criterion (0.5) (Fornell & Larcker, 1981). The composite reliabilities of the constructs were between 0.52 and 0.68. These indicated internal consistency. The above results showed that motivation, program evaluation, career attitudes, and career aspirations, were valid and reliable constructs. The corresponding structured model was tested.

#### 4.2. Structural model testing

This study examined the career aspirations of students in university–industry cooperation via the relationship between motivation, program evaluation, career attitudes, and career aspiration. The relationship was further examined by structural equation model along with the maximum likelihood method. The chi-squared value was 227.995. The  $p$ -value was less than 0.0001. Other goodness-of-fit indicators showed the model was acceptable (RMSEA = .061, CFI = .941, GFI = .857, NFI = .852, TLI = .932, RMR = .043). The results showed that the data was consistent with the model. The results of SEM analysis were performed to examine the hypothesized path. Table 2 shows the results. Five hypotheses were supported. Hypothesis 1 predicted that students' motivation had a significant effect on program evaluation ( $t = 5.30, p < .001$ ), supporting H1. Hypothesis 2 showed a significant relationship between students' motivation and career attitudes ( $t = 2.00, p < .05$ ). Furthermore, Hypothesis 3, career attitudes affect career aspirations positively, was supported ( $t = 3.78, p < .001$ ). In addition, the results show that Hypothesis 4, where the program evaluation affected career attitudes, was supported ( $t = 2.89, p < .05$ ). The career attitudes was a significant antecedent of career aspirations, supporting H6 ( $t = 3.60, p < .001$ ). Lastly, Hypothesis 5, which was about the relationship between program evaluation and career aspirations, was insignificant. Finally, the final model was modified. Figure 2 presents the final model of the students' behavior of university–industry cooperation program with hypothesis testing results.

#### 5. Discussion and conclusion

The purpose of this study was to examine the relationship among student study motivation, program evaluation, career attitudes, and career aspirations under university–industry cooperation program. Thus, the finding of this study enriched the knowledge of the education system relative to students' behaviors.

This study developed a measurement model with four constructs. Hypotheses 1–4 and 6 were supported. First, motivation had a positive relationship with program evaluation, career attitudes and career aspiration. This result was consistent with the literature. Second, program evaluation had a positive relationship with career attitudes. Third, career attitudes had a positive relationship with career aspiration (See Figure 2). Although our model was consistent with most of the literature, our model showed that there was no relationship between program evaluation and career aspiration. Previous literatures (Plucker, 1998; Seth, 2016; Wall et al., 1999; Wang & Staver, 2001) showed that there was a relationship between program evaluation and career aspiration. This was because when the evaluation of a program increases, the knowledge that the students received increases. Students would become more interested in applying and participating in the industry, hence career aspiration increases. However, students in this study were actively working in the industries during their period of study. There were not interns, which, by definition, only work a few weeks to months in a year. Instead, they worked similar to the full time workers. Hence, they understood that the works in the industry were relatively routine and labor-intensive. Therefore, unless students developed a professional career attitude, they would not have much imagination or aspirations toward the industry.

**Table 1. Results of overall measurement model (N = 151)**

Constructs and indicators	Standardized loading	Composite reliability/reliability	AVE/error variance
<b>Motivation</b>		<b>0.39</b>	<b>0.54</b>
I have extra funding	0.64	0.41	0.57
I have industrial experience	0.75	0.57	0.33
I have practical skills	0.85	0.72	0.23
I have guaranteed Jobs	0.75	0.56	0.35
I can improved job chances elsewhere	0.71	0.50	0.36
I have extra training opportunities	0.68	0.46	0.51
<b>Program evaluation</b>		<b>0.24</b>	<b>0.52</b>
I am able to evaluate new technologies as they emerge	0.74	0.55	0.28
I am able to understand the group dynamics that exist within organizations	0.73	0.53	0.33
I am able to use a wide range of routine and some advanced skills in making presentations	0.76	0.58	0.32
I am able to use a wide range of routine and some advanced skills in using IT applications	0.72	0.51	0.33
I am able to use a wide range of routine and some advanced skills in interpreting numerical and graphical data to achieve goals and targets	0.73	0.53	0.30
I am able to use a wide range of routine and some advanced skills in participating in group discussion	0.64	0.41	0.34
<b>Career attitudes</b>		<b>0.55</b>	<b>0.55</b>
My family is proud of my profession in hospitality and gaming industry	0.75	0.56	0.36
I find jobs in the hospitality and gaming industry interesting	0.81	0.65	0.28
It is a very nice feeling to serve customers	0.69	0.47	0.51
My character fits to working in the hospitality and gaming industry	0.72	0.52	0.37
I get pleasure while working in the hospitality and gaming industry	0.79	0.63	0.32
<b>Career aspirations</b>		<b>0.57</b>	<b>0.68</b>
I would like to work in the hospitality and gaming industry after graduation	0.85	0.72	0.34
I believe I can advance my career in the hospitality and gaming industry	0.80	0.64	0.22

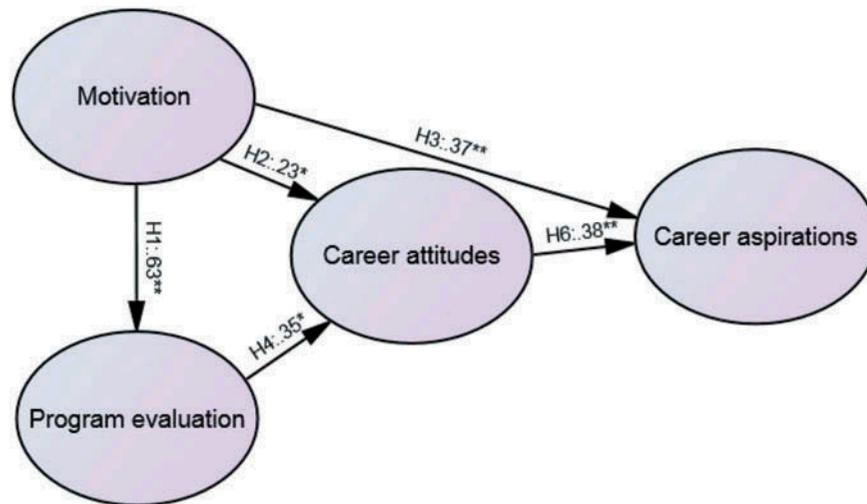
Furthermore, students who participated in this university–industry cooperation program signed a contract with the participating companies, agreeing to stay working the company a few years (depending on the terms of the contract) after graduation. Therefore, on one hand, as students were guaranteed a job in the future, the level of career aspiration diminished regardless of the program evaluation. On the other hand, students might evaluate the program other than the knowledge they learned or the quality of teachers. For example, they might evaluate the program

**Table 2. Results of proposed model**

Dimension	Standardized coefficients	t-value
H1 motivation→ program evaluation	0.63	5.30**
H2 motivation→career attitudes	0.23	2.00*
H3 motivation→career aspirations	0.37	3.60**
H4 program evaluation→career attitudes	0.35	2.89*
H6 career attitudes→ career aspirations	0.38	3.78**

Note:\*\* $p < 0.001$ , \* $p < 0.05$

**Figure 2. Results of testing proposal model.**



from an administrative perspective or other perspectives related to their work. Therefore, the connection between program evaluation and career aspiration diminished.

The results had both educational and managerial implications to tourism and hospitality industry. Most of the literature related to career aspiration focused on career attitudes and motivation (Reference). This study introduced an additional factor, program evaluation, into the model. Using standard CFA and EFA technique, this study developed a measurement model of all factors, motivation, program evaluation, career attitudes, and career aspirations. This study showed that after controlling for career attitudes, program evaluation did not affect career aspiration. On one hand, educational program manager should consider whether it was necessary to strengthen the relationship between program evaluation and career aspiration. If yes, as the previous discussion indicated, one reason could be due to intensive work nature and the compulsory work contract of the university–industry cooperation program. Program managers might consider reducing the amount of work time in the program or the length that students had to stay in the company after graduation.

Moreover, despite the number of university–industry cooperation undergraduate programs in Macau increased rapidly, the quality of these programs remained unknown. From the industrial and educational perspective, whether this new cooperation method could encourage more students or talents to participate in the tourism and hospitality industry. Undergraduate programs did not only mold students’ knowledge and skills, but also affect their job attitudes and work values (Berings, De Fruyt, & Bouwen, 2004). From the theoretical perspective, this study enhanced the

hospitality and tourism literature by studying the relationship between motivation, career aspiration, program evaluation, and career attitudes.

From the management perspective, although this study showed that there was no relationship between program evaluation and career aspiration, this study showed students who had worked in the industry for a certain period of time lacks career aspiration. Tourism and hospitality managers should consider methods to retain not only talents who were from the university–industry cooperation program, but also talents who had full-time work in the industry.

In addition, both motivation and program evaluation were identified as significantly positive predictors of tourism job aspirations. For practical perspective, traditionally, people who had good motivation and learning experience in the tourism and hospitality industry would be likely to work in the industry. Therefore, this study suggested that both tourism educators and practitioners should focus on recruiting individuals with good motivation on tourism jobs and learning experience in the university–industry cooperation program. This study further provided a method for industry practitioners or educators to better monitor and improve the quality of the program. For example, on one hand, companies could provide more incentives, such as flexible work schedule, to attract more students. On the other hand, upon receiving feedback from students, institutions could update the program regularly according the needs of the students and industry.

Even though this study provided practical and theoretical implications, there were some limitations. First, since the proposed hypothetical SEM model of students' motivation, program evaluation, career attitudes, and career aspirations was tested with samples of students in Macau, the results may not be generalized to other populations. Second, there was no information on the potential moderating effect of demographics, such as study major, gender, working experience, etc., on the relationships between the four main constructs. Therefore, respondent characteristics should be considered in future researches. Lastly, the study simply focused on general career choice behaviors of individuals with respect to the perceived importance of the included constructs. Therefore, we did not know whether different type university–industry cooperation programs would have different results. Further research should also consider different types of university–industry cooperation programs. Furthermore, the model was an approximation of reality with students' career choice. Future researches needed to consider other possible career choice domains that can influence overall students' attitudes toward working in tourism and hospitality industry.

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