

## **Pursuing benefit or avoiding detriment? Term-time job selection of sports major undergraduates**

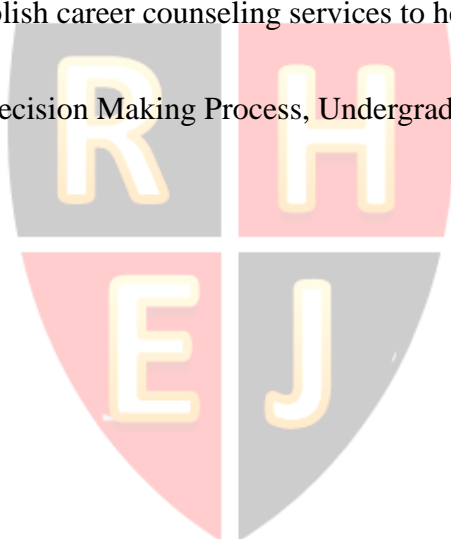
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### **ABSTRACT**

Higher education expansion accompanied with the tuition rising had resulted in the increasing number of term-time employed students in many countries. Taiwan is no exception of this trend. Thus, there were a few studies to explore the impact of term-time employment on undergraduates. However, very few researchers put focus on how undergraduates make the decision of applying a term-time work. Analytic hierarchy process is adopted in this study to measure the relative weights of decisive factors of term-time employment choice among sports major undergraduates. A self-developed questionnaire was adopted as the major tool for data collection. According to the results, we recommend college administrators and department of sports could consider offering more on-campus working opportunities, build partnerships with off-campus employers to strengthen the benefit of students' working experiences, and finally establish career counseling services to help their students to select term-time jobs.

Keywords: Term-time Job, Decision Making Process, Undergraduate, Taiwan, Analytic hierarchy process (AHP)



## INTRODUCTION

The expanding numbers of universities could provide more opportunities for high school graduates, but researchers also warned the tuition rising accompanied with higher education expansion could result in the increasing numbers of term-time employment students (Hall, 2010). This phenomenon is not only significant in the United Kingdom (Callender, 2008), it is also an important social change in East Asia, Taiwan is no exception (Wu, 2009). In this context, term-time employment among undergraduates has become an important issue for college administrators and students themselves. As Callender (2008) points out, governments and policy makers did not put much attention on term-time employment, but term-time employment does have negative effects on undergraduates' final year academic scores and degree qualities. But, Wang, Kong, Shan, and Vong (2010) have a different finding on term-time work's effects. They found that doing part-time jobs during term time can enrich undergraduates' school life and social support network.

Term-time employment is an important issue due to its high connection with educational inequality and social economic status. Higher Proportion of undergraduates from lower social backgrounds would undertake paid term-time work (Callender & Wilkinson, 2003).

Thus, there were some researches began to explore the impact of term-time employment on undergraduates' academic performance (Moreau & Leathwood, 2006). However, very few researchers put focus on how undergraduates make the decision of applying a term-time work or accepting a term-time work offer.

Contrasting with most studies that focus on exploring both positive and negative effects of term-time work experiences, this study proposes a different approach. We concentrate on undergraduates' decision making process when they are selecting a term-time employment offer. Since decision making is a relative measure and is a process of rating importance and priority, we assert analytic hierarchy process is highly suited for this study. Analytic hierarchy process is adopted in this study to measure the relative weights of decisive factors of term-time employment choice among sports major undergraduates in Taiwan. We also designed a self-developed questionnaire to measure the weighted scores of various types of term-time employment on their decisive factors. The results of this study can help college and university administrators make policy decision.

## METHODOLOGY

### The Analytic Hierarchy Process

We used Analytic Hierarchy Analysis in this research to measure the relative importance of the factors affecting students' term-time job selection. The mechanism of AHP is to break down a big problem into several factors. The factors are organized into a hierarchical structure with the primary goal at the highest level. The second level consists of the secondary goals that together contribute to accomplishing the primary goal. Thereafter, each secondary goal is constructed by the factors on the next lower level, and so on. The benefits of AHP include: gaining knowledge from experts; allocating weights to each element; validating consistency of the ratings; and combining with other statistical techniques for further analyses (Saaty, 1994). Due to the benefits of AHP, we decided to adopt AHP as the major method for data analysis.

Participants are asked to compare the factors in pairs, then a positive reciprocal matrix is adopted figure out the relative weights of each factor. The formula used in this research was as follows in Fig. 1 (Appendix): where  $a_{ij}$  represents the element located in row  $i$  and column  $j$  of the positive reciprocal matrix, and  $a_{kj}$  represents the element located in row  $k$  of any normalized column  $j$ . Next, an eigenvector  $\tilde{e}_{\max}$  is calculated to assess the consistency. A  $CR < .1$  indicates consistency of the structure. The formula used in this research was as follows (See Fig. 2) (Appendix):

Next, a final AHP structure was constructed. As shown in figure three the main goal was to select the best term-time job; the second level included two dimensions: Benefit Pursuit and Detriment Avoidance; and the third level was formed eight determinant factors.

## Design of the Questionnaire

We developed a questionnaire to investigate physical education majored students' motivations for term-time employment, perceptions regarding the relative importance of factors affecting job selection, and benefits and detriments of different job types. The questionnaire was consisted by four sections. The first section consists of several questions about participant's demographical information; the second section was formed by 13 pairs of AHP questions; the third section consisted of 8 questions measuring the impacts of term-time jobs. The fourth part consisted of a cross table of the eight types of employment and the eight determinant factors. The participants were asked to place a check mark next to each type of employment believed to be adequate with respect to a specific factor.

## Research Participants

College students of sports major were targeted as the research participants for this study. A self-administered questionnaire was sent to 200 college students in Taiwan. A total of 132 questionnaires were returned. Of which, 84 (63.6%) reported to have term-time work experiences. We decided to use only those with term-time work experiences for the forthcoming analyses.

## RESEARCH RESULTS

### Participants' Demographic Characteristics

The sample consisted of 84 students with 59 (70%) male and 25 (30%) female students. 22 (26%) students came from financially disadvantaged families, 62 (74%) from moderate prosperity or prosperity families. About 24% of students with working experiences engaged in off-campus operational jobs, followed by off campus laboring jobs (24%), physical exercise coach (23%), on-campus administrative jobs (7%). Most students worked less than 10 hours per week: 13 (15%) students worked 1-5 hours per week, 33 (39%) worked 6-10 hours per week, 4 (5%) worked 11-15 hours per week, and 34 (41%) worked more than 16 hours per week. The average monthly income earned was NT\$12,027 (US\$309), this amount is slightly higher than their monthly expenditure of NT\$5,246 (US\$175). The biggest amount of their income went to basic living expenditures (30%), followed by savings and investments (25%), tuition (15%) and entertainment activities (15%).

### The Relative Weight of the Factors

We use AHP as the main method for figuring out the relative weight of each determinant factors of job selection. Table 1 (Appendix) showed that the participants perceived the dimension of Benefits Pursuit (.527) to be more important than the dimension of Risk Avoidance (.473).

Table 2 (Appendix) showed that Avoiding Health Detriment (.180) was considered to be the most important factor. This was followed by, in descending order, Gain Practical Knowledge and Skills (.177); Beneficial to Future Employment (.171); Avoiding Academic Outcome Detriment (.132); Avoiding Safety Detriment (.094); Good Pay (.090); Building Relationships (.087); and Avoiding extracurricular Activity Detriment (.068).

### Students' Perceptions of Term-Time Work

How do students think about their employed experiences (Table 3) (Appendix)? They indicated that they learned a great deal of practical knowledge and skills (4.20), and they also believed that their working experience was beneficial to future employment (3.57), and by engaging in term-time works, they successfully enhanced their self-confidence (3.69), and they also believe that they gained a good pay (3.46). Moreover, although they admitted that their term-time work was detrimental to their extracurricular activities (3.12), they tend to ignore or paid less attention to the other possible detriments of their term-time works, and this was especially true for the detriment to their academic works (2.65).

## Correspondence Analysis Map

We then adopt correspondence analysis (CA) to produce a map displaying the relative positioning of the employment types (Figure 4) (Appendix).

The X2 of 289.375 and the CR value of .000 indicated that the perceptual map created by CA was feasible. The correspondence analysis map shows that the determinant factors and employment types form into four groups: RA or TA, Coach, Off-Campus Operational Jobs and Tutoring had the highest rating on Employment Preparation and Enhancing Self-Confidence. On-campus Labor and On-Campus Administrative Jobs had the most bearing on Gaining Practical Skills and Detriment to Extra-Curricula Activities. Off-campus Laboring Jobs was closer than others to Health Detriment. Custodian Jobs was relative to Peer Interaction Problems and Detriment to Academic Achievements.

## CONCLUSION AND IMPLICATIONS

The main goal of this study is to find out the relative weights of factors that sports major undergraduate would consider when they are making the decision of a term-time employment. The first finding of this research is when students choose term-time employment; the highest order is to avoiding health detriment. The second order is gain practical knowledge and skills, the third order is beneficial to future employment, and the fourth order is to avoid academic outcome detriment. Thus when students are considering accepting a term-time job, whether this job would not harm their health and if this job can offer them professional development are two key concerns.

The second important finding from the correspondence analysis of this study is different types of term-time job in associate with their factors of benefit pursuit and detriment avoidance. We find the term-time job type of "off-campus labor" has higher relationship with detriment to health, whereas on-campus labor is closer with practical skills and detriment to extracurricular activity. TA or RA and coach are closer with self-confidence and their future employability. Thus college administrators and department of sports could consider offering more on-campus working opportunities such as TA, RA or other on-campus administrative works, build partnerships with off-campus employers to strengthen the benefit of students' working experiences, and finally establish career counseling services to help their students to select term-time jobs.

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**APPENDIX**

Fig. 1 The formula used to calculate the weights of the attributes

$$A = [a_{ij}] \begin{bmatrix} 1 & a_{12} & \dots & a_{1m} \\ a_{21} & 1 & \dots & a_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m1} & a_{m2} & \dots & 1 \end{bmatrix}$$

$$\begin{bmatrix} 1 & w_1/w_2 & \dots & w_1/w_n \\ w_2/w_1 & 1 & \dots & w_2/w_n \\ \vdots & \vdots & \ddots & \vdots \\ w_n/w_2 & w_n/w_2 & \dots & 1 \end{bmatrix}$$

The weight is:  $W_i = 1/m \sum_{j=1}^m \frac{a_{ij}}{\sum_{k=1}^m a_{kj}}$

Fig. 2 The formula used to calculate the consistency of the model

$$A \times K = \begin{bmatrix} 1 & a_{12} & \dots & a_{1m} \\ a_{21} & 1 & \dots & a_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m1} & a_{m2} & \dots & 1 \end{bmatrix} \times \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_m \end{bmatrix} = \begin{bmatrix} w'_1 \\ w'_2 \\ \vdots \\ w'_m \end{bmatrix}$$

$$\lambda_{\max} = \left(\frac{1}{m}\right) \times \left(\frac{w'_1}{w_1} + \frac{w'_2}{w_2} + \dots + \frac{w'_m}{w_m}\right)$$

$$CI = \frac{\lambda_{\max} - m}{m - 1} \quad CR = \frac{CI}{RI}$$

Fig. 3 The AHP structure used in this research

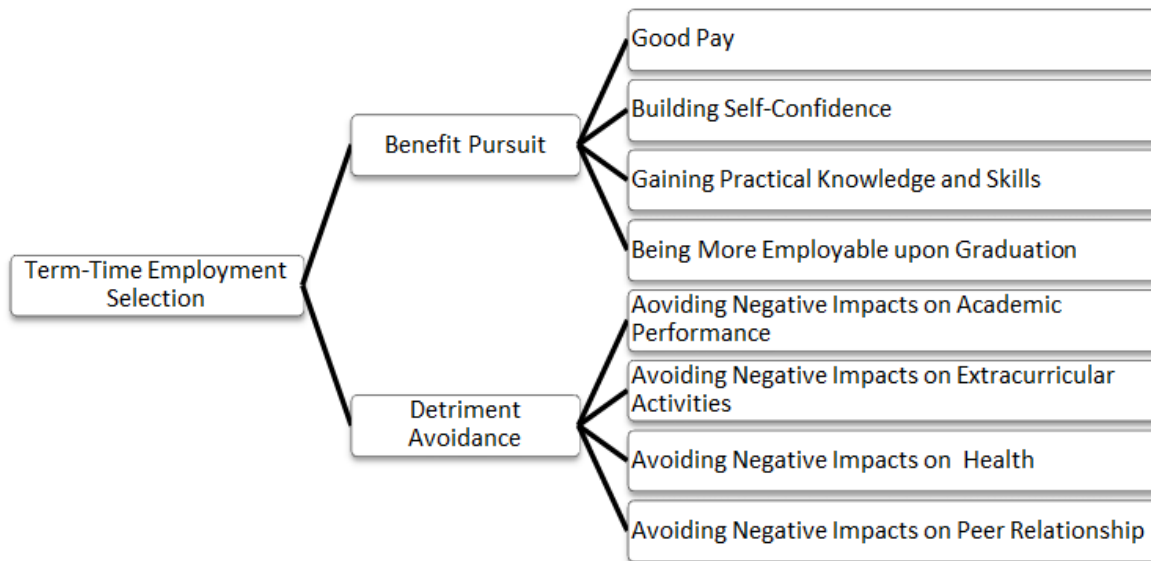


Figure 4. Positioning map of determinant factors and employment types

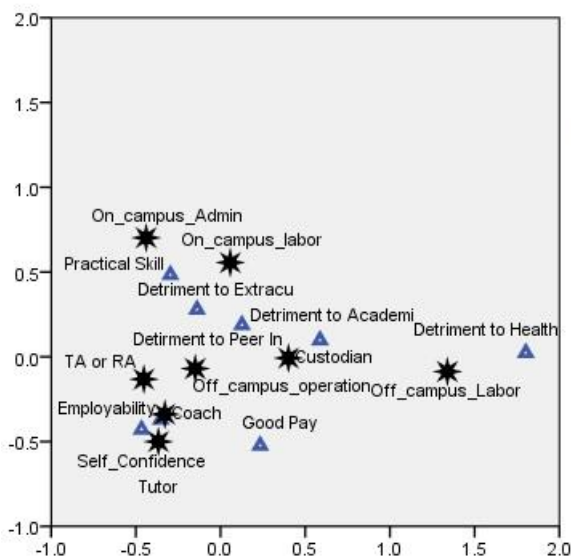




Table 1. Weights of the two dimensions.

Major Goal	Dimension	Weight	Order
Choice of Employment	Benefits Pursuit	.527	(1)
	Detriment Avoidance	.473	(2)

Table 2. Weights of the eight determinant factors.

Major Goal	Dim.	CR	Determinant Factor	Weight	Order
Term-time employment Selection	Benefit Pursuit	.003	Good Pay	.090	(6)
			Building Relationships	.087	(7)
			Gain Practical Knowledge and Skills	.177	(2)
			Beneficial to Future Employment	.171	(3)
	Risk Avoiding	.005	Avoiding Academic Outcome Detriment	.132	(4)
			Avoiding extracurricular Activity Detriment	.068	(8)
			Avoiding Health Detriment	.180	(1)
			Avoiding Safety Detriment	.094	(5)

Table 3: Term-Time Work Related Benefits and Detriment Perceived by Students

Benefits or Detriment	Average	STD
1. Earn a great deal of money	3.46	.78
2. Enhance my self-confidence	3.69	.77
3. Gain Practical knowledge and skills	4.20	.61
4. Beneficial to future employment	3.57	.86
5. Negative impacts on academic outcomes	2.65	.86
6. Negative impacts on extracurricular activities	3.12	.99
7. Negative impacts on health	2.80	.99
8. Negative impacts on peer interactions	2.85	.99