# Life Adjustment of International Students in Eastern Taiwan

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## ABSTRACT

*This study investigates international students' life adjustment in Eastern Taiwan by utilizing a questionnaire design. A total of 104 students participated to complete the Life Adjustment Questionnaire. Several predictors (gender, differences in academic majors, and study levels) were studied in this survey. The results revealed seven important points, including the validity and reliability of the Life Adjustment Questionnaire, the degree of adjustment, adjustment across gender, the correlations among dimensions of adjustment, adjustment across majors, adjustment across study levels, and the interaction among gender, major, and study level together concerning adjustment. The study gives some implications for further research and recommendations for universities related to international students.*

# INTRODUCTION/BACKGROUND

"Study in Taiwan" has become a very popular slogan nowadays in Taiwan. In order to promote education in Taiwan, especially higher education, the Ministry of Education (MOE) has offered internationalization by providing a lot of accessible information for foreigners and by opening many classes that are taught in English. Internationalization has become one of the essential issues in Taiwanese higher education. Universities in Taiwan that are supported by the MOE have promoted internationalization in higher education to invite more international students to pursue their degrees in Taiwan. Additionally, to increase students' interest and motivation for learning, the Taiwanese government has encouraged English as Medium Instruction (EMI) courses (Chang, Bai, & Wang, 2014). The government has also promoted some scholarship programs to invite overseas students to study in Taiwan. For example, the Taiwan Scholarship Program was launched in 2004, cooperatively among four agencies: the MOE, the Ministry of Economic Affairs (MOEA), the Ministry of Foreign Affairs (MOFA), and the National Science Council (NSC), to boost outstanding international student enrollment in degree programs in Taiwan (MOE, 2009). As a consequence, these efforts have attracted many international students to pursue their degree in Taiwan.

Over the last decade, the number of international students pursuing an academic degree in Taiwan has increased dramatically (Jenkins & Galloway, 2009). Data from 2008 to 2013 showed that the total number of international students and overseas Chinese students more than doubled (MOE, 2015). This situation is in line with the international indicator's data on educational attainment, which showed that Taiwan was above average in 2010 (National Development Council, 2014). In 2013, "the total number of international students (including degree-seeking students, exchange students, and students studying languages) reached 49,033, representing an increase of more than 63% over the 30,067 international students studying in Taiwan in 2008" (MOE, 2015).

A lot of universities in Taiwan certainly do their best to recruit international students and provide them with a comfortable environment to study. But, due to the fact that the number of the international students is increasing every year, universities also need to care about their students' life adjustment in order to help the students enjoy their studies and make this internationalization program long-lasting. Adjustment to college / university life is one key indicator of the student's success at the college / university. This life adjustment has become an important issue as both local and

international students have had to adjust their lives in their university. Although they may draw on previously received guidance from their teachers and parents, students tend to make some decisions on their own regarding how to adapt and survive on the campus. Moreover, international students in their current position—far away from their origin country and their family—need information on how to adapt to new conditions. They need to manage their crises and to solve problems. They require specific considerations for living in the college.

Different factors contribute to the success of international students' experiences in college. Paulsen (2005) suggested several considerations for surviving in college, particularly for roommates, food, academics, grades, and unusual situations. Smale and Fowlie (2009) separated necessary skillsets into three parts: personal skills, academic skills, and career building skills after graduation. Magolda et al. (2012, p. 418) reported: "…[I]n the first year of college, 86% students relied solely on external authorities to define their beliefs, identity, and relationships." Then, at the beginning of their second year, 57% relied solely on external authorities. This means that external factors will decrease with increasing levels of study. At the sophomore level, Wang and Kennedy-Phillips (2013) studied students' involvement and participation in academic and social activities. Their results showed that institutional commitment and academic efficacy were strong predictors of sophomore involvement.

**Research Focus**

Regarding the level of international student adjustment in Taiwan, Chen and Chen (2009) found that international students vary in their adjustment across cultures. Accordingly, their study used four dimensions to capture international student adjustment: social, personal-emotional, academic, and institutional. The study was conducted in Southern Taiwan. Recently, Pare and Tsay (2014) also investigated international student life adjustment in Western Taiwan. They focused on eight international students (2012–2013) and their results indicated that "international students experienced significant challenges in terms of cultural adjustment, social adjustment, and academic adjustment, with academic adjustment divided into four sub-sections: adjustment to language of instruction, adjustment to teaching methods, adjustment to new and different student-teacher relationships, and adjustment to the school's physical environment."

Researchers who have been concerned with how college students survive in the university used the term "college student life adjustment." This term is

an essential factor in the success of students learning. However, few researchers have described the situation of college student adjustment in Taiwan. Even though some studies have focused on Taiwan, the participants have come from big cities in the Western, Northern, and Southern parts of Taiwan. None of those studies have focused on Eastern Taiwan. Therefore, this study will focus on Eastern Taiwan and will utilize the university adjustment scale.

**Research Problem**

The problem of this study is detailed in the following seven questions:
1. Does the university life adjustment scale achieve validity and reliability in this population?
2. What was the degree of adjustment among international students in Eastern Taiwan?
3. Were there any significant intra-relationships among predictor variables of international student life adjustment in Eastern Taiwan?
4. Was there any significant difference between male and female international students in life adjustment?
5. Were there any significant statistical differences in international student life adjustment based on different majors of study?
6. Were there any significant statistical differences in international student life adjustment based on the level of study?
7. Were there any interactions among gender, major, and level of study in international student life adjustment?

## LITERATURE REVIEW

Some previous researchers have been concerned about how university students survive on campus. Wilson (1984) explored university adjustment among Zambian students. His research, which consisted of 242 students from the first year and 60 fourth level students, showed that there were problems in university adjustment due to the capacities, facilities, and services of the university. In different ways, Grayson (2003) stated that universities establish numerous first-year programs considered to support students in the transition from high school. His research suggested early adjustment results can result in relatively high grades and credit completion (Grayson, 2003). Additionally, Paulsen (2005) also suggested several factors such as roommates, food, academics, grades, and special situations (personal and emotional) can contribute to students' success on campus.

In terms of life adjustment dimensions, Smale and Fowlie (2009) separated them into three parts: personal skills, academic skills, and career building skills after graduation. In more detail, Moores and Popadiuk (2011, pp. 295-299) noted that there were eight aspects of an international student's transition: "growth and/or change, social support / building relationships, learning to navigate host culture, enjoyable activities outside of schoolwork, previous experience and preparation, supportive faculty and staff, reserving through hard times, and sense of belonging." Moreover, de Araujo (2011, p. 8) divided adjustment issues into six dimensions: "English language proficiency, social support, length of stay in the country, perceived discrimination, establishing relationships with locals and homesickness." Meanwhile, international students were challenged by academics, social interaction, and emotional reactions to the new situation. As Gebhard (2012, p. 184) noted "...to manage their problems, students made use of behaviors that can facilitate adjusting to the new culture, as well as behaviors that can hamper them from adopting. Facilitative behaviors consist of coping strategies, the use of supportive people, observation and imitation, and reflection."

Research conducted in developed countries has shown that international life adjustment is a little bit different in dimension. Al-khatib et al. (2012) argued that the degree of students' adjustment to university life was moderate. Their study, which aimed to explore the degree of students' adjustment to university life, also showed no statistically significant differences across gender, college, study level, and the interactions among them. Regarding the interaction among predictor variables of life adjustment, Osa-Edoh and Iyamu (2012) investigated the effect of social adjustment on the academic achievement among adolescents in Nigeria. Their findings showed that social adjustment influences students' academic achievement. Their study also recommended that stakeholders should educate students on the need to be focused on this topic.

In particular, Chen and Chen (2009) noted that international students in Taiwan have been shown to vary in their adjustment in four dimensions: personal-emotional, social, academic, and institutional adjustment. The study was also in line with Pare and Tsay (2014), who separated international student adjustment into cultural, social, and academic facets. Academic adjustment was also been further divided into four sub-sections: "adjustment to the language of instruction, adjustment to teaching methods, adjustment to new and different student-teacher relationships, and adjustment to the school's physical environment." (Pare and Tsay, 2014, pp. 1-2) To sum up, Table 1 indicates the relationship between the dimensions of international

student adjustment defined by some different studies and what terms were used in this study.

**Table 1: The Dimensions of International Student Adjustment by Different Studies**

| No. | Dimension | Author(s) |
|---|---|---|
| 1 | Social adjustment | Chen & Chen (2009), Moores & Popadiuk (2011), de Araujo (2011), Gebhard (2012), Al-khatib et al. (2012), Pare & Tsay (2014), S. Li & Zizzi (2018) |
| 2 | Commitment to goals | Smale & Fowlie (2009), Al-khatib et al. (2012) |
| 3 | Personal adjustment | Smale & Fowlie (2009), Chen & Chen (2009), and Al-khatib et al. (2012) |
| 4 | Academic adjustment | Smale & Fowlie (2009), Chen & Chen (2009), Gebhard (2012), Al-khatib et al. (2012), Pare & Tsay (2014), J. Li, Wang, Liu, Xu, & Cui (2018) |
| 5 | Lifestyle adjustment | Paulsen (2005), Moores & Popadiuk (2011), de Araujo (2011), Pare & Tsay (2014) |
| 6 | Financial adjustment | Paulsen (2005) |

Based on Table 1, the authors adopted an operational definition among the aforementioned dimensions. The operational definition of social adjustment used is "the extent of adjustment between the student and the surrounding environment, including local students, other students, and faculty members" (Al-khatib et al., 2012, p. 9). Commitment adjustment refers to "the student's ability to achieve self-satisfaction within different activities, such as vision, mission, goals, and planning after graduation" (Smale & Fowlie, 2009, p. 9). In this study, this means the total degree achieved by the students related to commitment adjustment on the life adjustment scale. Personal (emotional) adjustment is defined as a "student's ability to achieve self-satisfaction within different activities" (Al-khatib et al., 2012, p. 9), such as emotional stability, motivation to study, solving problems, and receiving counseling. This means the total degree achieved by the international students on the items related to the emotional adjustment in the life adjustment scale. Academic adjustment is "the ability of the student to achieve adjustment to university life and

reaching a state of satisfaction on his performance, colleagues, lecturer or Professor, and the environment as a whole, including lecture, courses, homework and study task, and library" (Chen & Chen, 2009; Al-khatib et al., 2012, p. 9). Lifestyle adjustment measures the student's ability to achieve the desired environment and daily life, such as food, rest time, exercise, weather, and entertainment. Finally, the financial adjustment is defined by the student's ability to manage financial support, such as scholarships, arrange a part-time job, and manage tuition fees and or installments. This adjustment estimates the total degree achieved by the respondent on the items related to financial support.

## RESEARCH METHOD

### Participants

In Eastern Taiwan, there are three provinces (Hualien, Yilan, and Taitung) containing three public universities, namely: National Dong Hwa University, National Ilan University, and National Taitung University. The first university was chosen as a source of participants due to the enormous number of prospective respondents (international students). Initially, the target number of respondents was 180 students. The total number of international participants came to 104 students (51 male and 53 female). The response rate was about 58%. The sample varied in a range of demographic factors as shown in Tables 2 and 3.

**Table 2: Summary of Sample Demographics Based on Major, Gender, and Level ($N = 104$)**

| Major | Gender | | | Level | | | Total |
|---|---|---|---|---|---|---|---|
| | M | F | BA | MA | PhD | N/A | |
| Science & Eng. | 22 | 12 | 21 | 6 | 7 | 0 | 34 |
| Management | 6 | 10 | 12 | 3 | 0 | 1 | 16 |
| Hum.& Soc. Sciences | 7 | 10 | 3 | 8 | 1 | 5 | 17 |
| Education | 5 | 7 | 0 | 8 | 4 | 0 | 12 |
| Arts | 4 | 3 | 2 | 1 | 0 | 4 | 7 |
| Environmental | 7 | 11 | 1 | 13 | 4 | 0 | 18 |
| Total | 51 | 53 | 39 | 39 | 16 | 10 | 104 |

*Note.* M = male, F = female, BA = Bachelor, MA = Master, PhD = Doctoral, N/A = missing data.

**Table 3: Distribution of Origin Country Among International Students (*N*= 104)**

| Continent | Country | Frequency |
|---|---|---|
| Asia | Malaysia | 9 |
| | China | 11 |
| | Hong Kong | 1 |
| | Indonesia | 28 |
| | Mongolia | 17 |
| | Viet Nam | 5 |
| | Thailand | 9 |
| | Korea | 2 |
| Africa | Gambia | 5 |
| | Swaziland | 2 |
| | Egypt | 1 |
| | Burkina Faso | 2 |
| Europe | Russia | 1 |
| | Germany | 1 |
| | France | 1 |
| | Czech Republic | 2 |
| America | Canada | 2 |
| | St. Kitts & Nevis | 2 |
| | USA | 1 |
| | Guatemala | 1 |
| | St. Lucia | 1 |
| | Total | 104 |

**Instrument and Procedures**

The Life Adjustment Questionnaire (LAQ) with 30 items was used in this survey study (see Appendix). During the spring semester of 2015, the authors sent out a paper and pencil questionnaire to international students in Eastern Taiwan. The independent variables were student background characteristics (including gender, major, nationality, level of study, and types of scholarship). The dependent (predicting) variables were scales representing various dimensions of international student life adjustment. The questionnaire was composed of 4-point Likert items, with anchors ranging from *strongly disagree* (1) to *strongly agree* (4). All dimensions were based on a factor analysis, which will be discussed in detail under data analysis.

**Data Analysis**

An Exploratory Factor Analysis (EFA) (principal component extraction, followed by a varimax rotation) designed to measure international student life adjustment (predicting variables), following the guidance of Suprapto and Chang (2015), Suprapto and Ku (2016), and Suprapto (2016) was used. This analysis extracted six factors as dimensions with eigenvalues larger than 1. These factors indicated the multiple dimensions of life adjustment, including social adjustment, commitment to goals, personal adjustment, academic adjustment, lifestyle adjustment, and financial adjustment. Each dimension consisted of at least three items. Subsequently, Cronbach's alpha was used to measure the internal consistency of each dimension. For the analysis process guidance of the six research questions, the following specific steps were taken:

a. The criterion of validity and reliability of the university life adjustment scale was determined by the loading factor and the Cronbach's alpha coefficient.
b. The degree of adjustment was indicated by descriptive statistics (mean and standard deviation).
c. The Pearson product-moment was used to measure the correlations among predictor variables.
d. The independent *t* test was used to distinguish between a male and female student in life adjustment.
e. The differences in life adjustment among the different majors were measured by one-way analysis of variance (ANOVA).
f. The differences of life adjustment based on the levels of study were also measured by one-way ANOVA.
g. The interactions among gender, major, and level of study of the international student life adjustment were indicated by two-way ANOVA.

## RESULTS

### Research Question 1: The Validity and Reliability of International Students' Life Adjustment Scale

The items of the international students' life adjustment scale, which consists of six dimensions, were derived from previous literature, namely: social interaction, commitment to goals, personal, academic, lifestyle, and financial

support. Originally, the total item scale was 30 questions, within which each dimension consisted of five items.

**Table 4: Summary of Construct Validity and Reliability of the LAQ**

| Factors and items | λ | % | α |
|---|---|---|---|
| Social Adjustment | | 7.59 | .35 |
| Item 3 | .510 | | |
| Item 4 | .643 | | |
| Item 5 | .303 | | |
| Commitment to goals | | 13.33 | .81 |
| Item 6 | .474 | | |
| Item 7 | .706 | | |
| Item 8 | .560 | | |
| Item 9 | .723 | | |
| Item 10 | .596 | | |
| Personal Adjustment | | 6.54 | .43 |
| Item 11 | .535 | | |
| Item 12 | .495 | | |
| Item 28 | .551 | | |
| Academic Adjustment | | 9.61 | .67 |
| Item 16 | .317 | | |
| Item 17 | .673 | | |
| Item 18 | .688 | | |
| Item 19 | .681 | | |
| Lifestyle adjustment | | 9.17 | .64 |
| Item 21 | .512 | | |
| Item 22 | .653 | | |
| Item 23 | .609 | | |
| Item 24 | .520 | | |
| Item 25 | .490 | | |
| Financial adjustment | | 11.29 | .78 |
| Item 26 | .661 | | |
| Item 27 | .736 | | |
| Item 29 | .618 | | |
| Item 30 | .551 | | |
| Overall | | 57.53 | .80 |

*Note.* λ = factor loading; α = reliability coefficient

After extracting six factors, by conducting EFA with a varimax rotation, checking eigenvalue and loading factor, followed by analyzing for internal consistency of factor structure, six items were deleted.

Table 4 shows the construct validities and reliabilities of the international students' life adjustment. The complete information about the item is shown in the Appendix. The six factors accounted for 57.53% of the total variance. Except for Items 5 and 16 (factor loading = .303 and .317), factor loading of international students' life adjustment intended to measure each factor were between .474 and .736, with an overall Cronbach's $\alpha$ of .80.

Item 1 (*I have a good friendship with other students*) and Item 2 (*I can make a friendship with a local student*) were excluded from the instrument because the extraction showed both items belonged to commitment adjustment, whereas the research framework placed it as part of the social interaction adjustment. Item 13 (*I feel enjoy in my study*) has made participant confused has made participants confused in between academic or personal adjustment as shown by the results of factor extraction as this item performs more in academic than in personal adjustment. In addition, Items 13 and 14 (*I am motivated to study in the university*) were similar to each other. Both Items 15 (*I am convinced of the need of psychological services center*) as well as Item 13 were closer to academic than personal adjustment based on the factor extraction. The possible reason was that some international students were unfamiliar with the psychological services center, or they thought they had no need of it. Turning to Item 20 (*I visit the university library regularly*) indicated more lifestyle adjustment than academic adjustment. It might be that international students do not need to visit the library because they can access library services online. This rationale may also explain the reason for the small Cronbach's $\alpha$ in Dimension 1 (social adjustment) and 3 (personal adjustment), which were .35 and .43, respectively.

## Research Question 2: The Degree of Adjustment Among International Students

Table 5 presents the degree of adjustment among international students in Eastern Taiwan, according to the university life adjustment scale. The dimension of commitment to goals came in the first rank with $M = 3.38$ and $SD = 0.53$, followed by academic adjustment with a $M = 3.17$ and $SD = 0.49$. Meanwhile, financial adjustment came in the last rank with $M = 2.61$ and $SD = 0.65$.

**Table 5: The Degree and the Correlation Among the Predictor Variables of International Students' Life Adjustment**

| Dimension | $M$ | $SD$ | 1 | 2 | 3 | 4 | 5 | 6 |
|-----------|-----|------|-----|-----|-----|-----|-----|-----|
| Social adjustment | 3.16 | 0.41 | 1 | | | | | |
| Commitment to goals | 3.38 | 0.53 | .17 | 1 | | | | |
| Personal adjustment | 2.82 | 0.47 | .03 | .31** | 1 | | | |
| Academic adjustment | 3.17 | 0.49 | .09 | .26** | .20* | 1 | | |
| Lifestyle adjustment | 2.67 | 0.64 | .14 | .16 | .39** | .28** | 1 | |
| Financial adjustment | 2.61 | 0.65 | −.02 | .18 | .28** | .31** | .10 | 1 |
| Total | 2.97 | 0.31 | | | | | | |

*Note.* \*\*$p < .01$, \*$p < .05$

## Research Question 3: The Intra-Relationship Among Predictor Variables of International Student Life Adjustment

Turning to the third question, *Were there any significant intra-relationships among predictor variables of international student life adjustment in Eastern Taiwan?,* a Pearson correlation product moment has been conducted. Table 5 also illustrates the relationships among the dimensions of international student life adjustment. Most correlation coefficients were significantly positive, but weak, from −.02 to .39 for all dimensions. There were no relationships between social interaction and other dimensions. There was a significant correlation also between commitment to goals and personal adjustment and commitment to goals and academic adjustment at $\alpha = .01$. In addition, a significant correlation between personal adjustment and academic adjustment at $\alpha = .05$; personal adjustment and lifestyle adjustment and personal adjustment and financial adjustment at $\alpha = .01$. Moreover, the table also shows a significant correlation between academic adjustment and lifestyle adjustment and academic adjustment and financial adjustment at $\alpha = .01$.

## Research Question 4: Life adjustment Across Gender

Relating to the fourth research question, *Was there any significant difference between a male and female student in life adjustment?*, an independent *t* test was conducted. Table 6 shows the comparisons of international student life adjustment across gender. Accordingly, there was no significant difference between male and female participants in life adjustment ($p > .05$).

**Table 6: Independent Sample Test Across Gender**

| Dimension | $t$ value | $p$ |
|---|---|---|
| Social adjustment | 0.851 | .507 |
| Commitment to goals | 0.171 | .289 |
| Personal adjustment | 0.019 | .580 |
| Academic adjustment | 0.176 | .283 |
| Lifestyle adjustment | 0.044 | .154 |
| Financial adjustment | 0.110 | .397 |

**Table 7: The Comparisons of International Student Life Adjustment Among Different Majors**

| Major | 1 $M$ (SD) | 2 $M$ (SD) | 3 $M$ (SD) | 4 $M$ (SD) | 5 $M$ (SD) | 6 $M$ (SD) |
|---|---|---|---|---|---|---|
| Science & Eng. (1) | 3.25 (0.43) | 3.46 (0.61) | 2.77 (0.48) | 3.13 (0.43) | 2.66 (0.61) | 2.62 (0.72) |
| Management (2) | 3.16 (0.35) | 3.28 (0.45) | 2.79 (0.24) | 3.06 (0.17) | 2.53 (0.62) | 2.67 (0.44) |
| Hum. & Soc. Sciences (3) | 2.97 (0.29) | 3.47 (0.43) | 2.89 (0.54) | 3.38 (0.50) | 2.75 (0.88) | 2.67 (0.58) |
| Education (4) | 3.12 (0.61) | 3.62 (0.38) | 3.22 (0.43) | 3.29 (0.62) | 2.58 (0.56) | 2.88 (0.38) |
| Arts (5) | 3.00 (0.29) | 3.00 (0.50) | 2.62 (0.49) | 2.78 (0.57) | 2.78 (0.57) | 1.75 (0.20) |
| Environ. Studies (6) | 3.22 (0.39) | 3.22 (0.55) | 2.72 (0.43) | 3.19 (0.55) | 2.72 (0.60) | 2.74 (0.66) |
| Total | 3.16 (0.41) | 3.38 (0.53) | 2.83 (0.47) | 3.16 (0.48) | 2.66 (0.64) | 2.63 (0.63) |
| ANOVA ($F$) | 1.328 | 1.977 | 2.534* | 1.911 | 0.304 | 3.618* |
| Post hoc test | - | - | 4 > 5, 3, 2, 1, 6 > 5 | - | - | 4, 6, 3, 2, 1 > 5 |

*Note.* 1 = social adjustment, 2 = commitment to goals, 3 = personal adjustment, 4 = academic adjustment, 5 = lifestyle adjustment, 6 = financial adjustment, *$p < .05$.

**Research Question 5: Life Adjustment Across Major of Study**

Relating to the fifth research question, *Were there any significant statistical differences of the international student life adjustment based on the different major?*, an ANOVA test was conducted. Table 7 displays the comparisons of international student life adjustment among different major. Based on *F* and *p* values, there is a significant statistical difference of dimension personal and financial support of international students regarding their major.

Meanwhile, there were no statistical differences within the dimension of social interaction, commitment to goals, academic, and lifestyle among international students regarding their majors. Post hoc tests also indicated student in the education major were more adjusted in personal aspects than those in the arts, as well as student in other majors. However, the students in the arts major were less adjusted in financial support compared to other students.

**Research Question 6: Life Adjustment Based on the Study Level**

Regarding the sixth research question, *Were there any significant statistical differences of the international student life adjustment based on the study level?*, an ANOVA test was conducted. Accordingly, there were three main study levels (bachelor [BA], master [MA], and doctoral [PhD]), and 10 sub-study levels (BA-1, BA-2, BA-3, BA-4, MA-1, MA-2, PhD-1, PhD-2, PhD-3, and PhD-4), which were analyzed in this research (Table 8). There were two dimensions that were significantly different, namely academic and financial adjustment.

**Table 8: The Comparisons of International Student Life Adjustment Based on Study Level**

| Dimension | F | p |
|---|---|---|
| Social adjustment | 0.421 | 0.387 |
| Commitment to goals | 0.171 | 0.360 |
| Personal adjustment | 0.089 | 0.363 |
| Academic adjustment | 2.976 | 0.013* |
| Lifestyle adjustment | 0.644 | 0.178 |
| Financial adjustment | 2.110 | 0.049* |

*Note.* *p* < .05

Academic and financial dimensions of each study level group were significantly different, because the *p* value was less than $\alpha = .05$, in the academic dimension, the *p* value was .013 ($\alpha < .05$). In the financial support dimension, the *p* value was .049 ($\alpha < .05$). Subsequently, based on the comparison mean in the academic and financial support dimensions for the three study levels, PhD students showed better life adjustment for those dimensions compared with MA and BA students. On the other hand, BA students had the lowest mean score of the two dimensions (see Table 9).

**Table 9: Mean of Academic and Financial Adjustment on Study Level**

| Study level | Academic adjustment *M* (*SD*) | Financial adjustment *M* (*SD*) |
|---|---|---|
| Bachelor | 3.01 (0.45) | 2.48 (0.29) |
| Master | 3.25 (0.62) | 2.67 (0.33) |
| Doctoral | 3.34 (0.66) | 3.14 (0.43) |
| Grand mean | 3.17 (0.38) | 2.67 (0.31) |

**Research Question 7: The interaction of Gender, Major, and Study Level to Life Adjustment**

Turning to the seventh research question, *Were there any interactions among gender, major, and level of study of the international student life adjustment?*, a two-way ANOVA test was conducted (see Table 10).

**Table 10: The Interaction of Gender, Major, and Study Level to Life Adjustment**

| Independent variable | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| | | | | *F* | | |
| Gender | 0.85 | 0.17 | 0.02 | 0.18 | 0.04 | 0.11 |
| Major | 1.33 | 1.98 | 2.53* | 1.91 | 0.30 | 3.62* |
| Study level | 0.42 | 0.17 | 0.09 | 2.98* | 0.64 | 2.11* |
| Gender × major | 0.99 | 0.89 | 2.11* | 0.88 | 0.22 | 2.84* |
| Gender × Study Level | 0.74 | 0.09 | 0.05 | 2.25* | 0.52 | 0.90 |
| Major × Study Level | 0.65 | 0.99 | 1.11 | 1.95* | 0.22 | 2.94* |
| Gender × Major × Study Level | 0.94 | 0.24 | 0.12 | 0.21 | 0.17 | 2.35* |

*Note.* 1 = social adjustment, 2 = commitment to goals, 3 = personal adjustment, 4 = academic adjustment, 5 = lifestyle adjustment, 6 = financial adjustment. *$p < .05$.

Accordingly, among three independent variables (gender, major, and study level), there formed four groups of significant interactions: (a) gender and major for personal adjustment and financial adjustment; (b) gender and study level for academic adjustment; (c) major and study level for academic adjustment and financial adjustment; and (d) gender, major, and study level for financial adjustment. It was clear that the dimension of financial adjustment accounted for a strong interaction among gender, major, and study level, except gender and study level directly.

## DISCUSSION AND CONCLUSIONS

The results of these analyses reveal some important points. First, the LAQ fulfilled the criteria of validity and reliability as obtained from the loading factor and Cronbach alpha value; therefore, the questionnaire is recommended for future studies. The questionnaire also provided more information and complemented previous studies, such as Chen and Chen (2009), Moores and Popadiuk (2011), de Araujo (2011), Al-khatib et al. (2012), Pare and Tsay (2014), and S. Li and Zizzi (2018).

Second, international college students experienced significant challenges in terms of commitment to goals and academic adjustment. This finding was supported by Pare and Tsay (2014). In terms of academic adjustment, four issues were found: adjusting to language instruction, new teaching methods, new and different student–teacher relationships, and Chinese language classes. This issue might be influencing the academic adjustment, which is not covered yet in the scale. In contrast, the students felt fewer challenges in financial support adjustment. The explanation expressed was that the majority of international students received a scholarship either from the institution or from their countries of origin.

Third, the interaction among the dimensions of life adjustment can be summarized into the following headings: (a) there was no relationship between social interaction and other dimensions; (b) there was a significant correlation between personal adjustment and academic adjustment in terms of commitment to goals; (c) a significant correlation was also found between personal adjustment and academic adjustment; personal adjustment and lifestyle adjustment; and personal adjustment and financial adjustment; and (d) a significant correlation was found between academic adjustment and lifestyle adjustment and academic adjustment and financial adjustment'.

Fourth, there was no significant difference in life adjustment across gender. Previously, Al-khatib et al. (2012) indicated the adjustment to university is not determined by gender, but that it is associated with other

factors: "future anxiety of job after finishing study or emotional instability or other problems related to academic achievement."

Fifth, personal adjustment and financial support adjustment viewpoints among different majors were significantly different. The differences in these dimensions were clearly shown in the correlation between personal and financial adjustment. The personal adjustment was automatically influenced by cultural differences and emotional habits from students' country of origin. The financial support resulting from the types of scholarship (personal) of the student, such as national scholarships, university scholarships, scholarships from countries of origin, or other scholarships. Previously, Smale and Fowlie (2009) argued that to succeed at the university, students must develop their personal skills and manage their money and their time, handling stress, looking after their health, and living independently (pp. 74–101). Since international student adjustment is different regarding personal and financial support, the Office International Affairs (2015) should set the scholarship distribution types based on equality and proportional aspects / criteria.

Sixth, there were two dimensions that were significantly different, namely academic and financial support in terms of study levels. This finding confirmed previous studies, such as Pare and Tsay (2014), Osa-Edoh and Iyamu (2012), and Wang and Kennedy-Phillips (2013). According to their research, international students encountered significant challenges in terms of academic, social, and cultural adjustment. Regarding the interaction between predictor variables, social life adjustment influences students' academic achievement.

Seventh, financial adjustment is the only dimension that accounted for a strong interaction among gender, major, and study level. A similar result was reported by Al-khatib et al. (2012) who also found that adjustment to college life is not based on interaction among gender, study level, and college/major.

Based on the overall findings, the significance of this research is that the financial support dimension makes a difference in student life adjustment, not only among different study levels and scholarship groups, but also study levels. Even though in the academic dimension there was a significant difference at different study level groups and commitment, there was also a significant difference between graduates and exchange students. Generally speaking, the findings were supported by the former research of international student adjustment in Taiwan; Chen and Chen (2009) found that most international students could adjust in academic learning, social relationship, personal emotion, and institution engagement dimension.

Other issues that should be raised are the suggestions from international students gained from the questionnaire form. From 104 respondents there

were 33 students who have given suggestions and opinions about the university. Their suggestions were mostly about these four classifications: scholarship, courses, university activities and information, and local students' interaction.

In term of scholarships, the students think that they do not clearly know the criteria or the requirements to obtain university scholarships. Some achieved a high grade point average but they did not get a good scholarship. They suggest that there must be some clear information and concrete selection criteria to avoid misunderstandings between the students and the university.

The students also suggested that the university provide more courses for them in one semester so that they can choose the courses that are really related to their interest. Other students also suggested that they could have more English classes in the university since their program is an international program but the class was sometimes conducted in Chinese.

Many students complained about the information available about the activities that were held at the university. Most of the announcements, emails, conferences, and others are written in Chinese and they cannot understand it. There should be an English version so that the overseas students also can have equal access to the information. It seems the international students would struggle more with signs posted all in English, rather than in Chinese.

It was also suggested by the students that the local students should have more interactions with the international students. This interaction is good for language exchange among them, not only English learning but also Chinese learning. These students wished for the local students to interact and make friends with them so that they can also have a positive social adjustment.

This study investigates international students' life adjustment in Eastern Taiwan. To sum up, seven essential conclusions can be drawn:

1. The LAQ instrument had satisfactory validity and reliability.
2. The commitment to goals adjustment came in the first rank in terms of the degree of adjustment among international students followed by the academic adjustment. At the bottom rank, the students were less challenged by financial support.
3. Among the six dimensions investigated in this study, each dimension was correlated with each other. This means these six dimensions contribute together in influencing international student life adjustments. In contrast, there were no relationships between social interaction and other dimensions.
4. Based on gender, there was no significant difference between males and females in life adjustment.

5. There were statistical differences in the dimensions of personal and financial support among international students regarding their majors.
6. In terms of study level indicated, international students had significant differences in academic performance and financial support.
7. Financial adjustment accounted for strong interaction among gender, major, and study level.

## IMPLICATIONS

The implications of this study are summarized into two points. First, it is important to check and recheck the scale of questionnaire or instrument for the future research. The scale used in this study might be acceptable in certain countries but may not be appropriate in another country. Therefore, if any researcher would like to use this instrument, he or she should consider the concept of "back translation," the procedure according to which a scale developer interprets a scale previously translated into another language back to the original language. Second, the number of samples / participants should be proportional. The implication for the university staff is that they should promote their campus in order to attract more international students. In this study, the dominant participants were Indonesian students. Therefore, the addition of more samples or participants is still needed in future research.

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