The adjustment problems faced by international and overseas Chinese students studying in Taiwan universities: a comparison of student and faculty/staff perceptions

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Abstract Over the last 15 years the number of international students studying at universities in Taiwan has increased dramatically; however, to date, there have been few studies that measured the cultural adjustment problems that this diverse group of students experience. To remedy this problem, this study gathered data from 1,174 international students and 189 faculty and staff members at 15 universities in Taiwan that described the extent of these problems in 12 different areas. Using independent sample t-tests and multiple regression analysis, this study found that the cultural adjustment problems experienced by international students were relatively minor, that faculty and staff consistently overstated these problems, and most importantly, problems with the English language explained more of the variation in both student and faculty and staff responses.

The number of international students studying in Taiwan universities has more than tripled over the last decade, from fewer than 6,000 in the early 1990s to almost 20,000 students in 2005 (Education Statistics 2006). This increase has been actively encouraged by both the government of Taiwan, which offers an elaborate scholarship system for international students studying in Taiwan (in which they contribute almost $300,000,000NT annually), and many of the individual universities themselves, since in addition to providing much-needed tuition revenues, the presence of international students on campus significantly increases the linguistic and cultural diversity of the student body. As a result of this explosive growth over the last decade, there are now almost 35 universities in Taiwan that offer full degree programs for international students in the English language.

Of course, when the universities of Taiwan enroll international or overseas Chinese students, they must assume some responsibility for meeting their special needs, since the problem of culture shock is unfortunately both real and pervasive for students suddenly struggling to adapt to a different set of cultural norms (Galloway and Jenkins 2005; Winkelman 1994; Pedersen 1991). This adaptation problem, originally described "as a disease from which the sojourner would ideally recover from over time" (Dulebohn 1989) and later defined as "extreme homesickness," led Oberg to conclude in 1960 that "culture shock is precipitated by the anxiety that results from losing all our familiar signs and symbols of social intercourse" (p. 177), something that has the potential to occur with every student studying for the first time in another country.

Not surprisingly, most of the early research in this area focused on the country where most international students were headed in the later part of the twentieth century—the United States—and made use of the Michigan International Student Problem Inventory developed by John Porter in 1962. However, given the 132-question length of this instrument, most of the early empirical study was not surprisingly limited to cross-sectional studies at individual campuses; few, if any researchers attempted longitudinal or multi-campus studies (Abu-Ein 1993; Harre 1995; McCoy

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1996; Greene 1998). In fact, the most common themes that emerged from this study were the importance of individual problem areas (e.g., language proficiency, financial aid, and social activities) and how select demographic measures such as country of origin, time in country, marital status, and gender helped explain variation in student problem levels (McCoy 1996; Greene 1998; Fitzgerald 1998).

In the last 20 years, however, work has expanded in several important areas. For example, in addition to the creation of several new instruments that measure acculturative stress (Sandhu and Asrabadi 1994), social connectedness (Lee and Robbins 1995), and social support (Sarason et al. 1987), researchers have begun to focus on the experiences of international students studying at countries other than the United States (Tanaka et al. 1997; Li 2000; Horrie 2002; Lin 2007; Lin 2008). Although this study has tended to focus on just a handful of countries (e.g., Canada, Australia, Japan, and the UK), there have been at least four recent quantitative studies that examined the problems of international students studying in Taiwan (Li 2000; Lee 2004: Lin 2007, 2008). While these studies differed in a number of important ways, including sample size and method of analysis, taken together they suggest that older students as well as those with established social support systems experienced fewer problems studying in Taiwan and as a result, less culture shock.

From a university faculty and administrative perspective, this expanded research focus comes at a particularly serendipitous time, since as more and more international students are arriving on their campuses, there is, of course, increased pressure to provide them with a quality experience, which means anticipating and ultimately resolving any adjustment problems they may experience. Although many institutions have responded with special orientation programs, separate-track instruction, and Offices of International Students, often times these programs are designed by well-meaning faculty and staff-based on what they perceive the problem areas to be, rather than based on the actual needs of the international and overseas Chinese students on their campuses. As a result, there may be a real disconnect between the cultural adjustment problems experienced by this group of students and the perception of these problems by the university personnel charged with their care, which ultimately, would result in a set of misaligned policies and procedures for promoting the international student experience on campus.

In order to help develop a better understanding of these experiences, in our study, we used two modified versions of the Michigan International Student Problem Inventory (Porter 1993) to examine the adjustment problems faced by international and overseas Chinese students at 15 randomly selected universities in Taiwan, as well as the perceptions of these problems by the faculty and

administrative staff charged with supporting them. After measuring both the problems and the perception of the problems, we then used independent sample *t*-tests to test for differences between the two groups as well as among the various students groups. In the second part of the study, we used multiple regression analysis to investigate the extent to which select demographic measures helped explain the variation in both student and faculty and staff responses, with special attention paid to the importance of problems with the English language. The article then concludes with a short discussion of the policy and procedural implications of our study for student affairs professionals involved in the care and support of these students.

Methods

Participants

The two populations used in our study included all international students and overseas Chinese students enrolled in Taiwan universities on a student visa during the fall semester of 2006, as well as those faculty and staff members directly responsible for their care. We define *Overseas Chinese students* as those individuals who applied through the Taiwan government's Overseas Compatriot Affairs Commission for status as an overseas Chinese student and who have maintained permanent residence outside of Taiwan for a minimum of 6 years. Citizens of the PRC, including the cities of Macau and Hong Kong, are not considered overseas Chinese students, but are considered members of a special administrative district of the ROC. For the purpose of this study, students from the PRC attending the preparatory school were considered overseas Chinese students. All overseas Chinese students (including the special administrative districts) are subject to an entrance examination before being permitted to enroll in a degree program in either the English or Chinese language. However, those students who fail to pass the entrance examination typically attend a preparatory school which assists them in developing their test taking skills and Chinese language ability in non-degree courses for as long as 2 years; as a result they are referred to as *preparatory students* in this study. And finally, *International students* are defined as students enrolled in Chinese as a Second Language (CSL) Programs that are non-degree programs, enrolled in English language degree programs, or enrolled in a Chinese language degree programs without regard to their ethnicity. These students did not apply for overseas Chinese student status.

From the 147 universities located in Taiwan, we first identified the approximately 65 universities that host

international and overseas Chinese students and then randomly selected 15 of them for inclusion in our study. Eight of these universities were public and seven were private; more importantly, most of the top ranked public and private universities in Taiwan were included in our sample. Taken together, these universities enrolled approximately 4,600 students and had about 1,000 university personnel that fit our selection criterion. In fact, according to information provided by the Ministry of Education in Taiwan, the 4,600 students we surveyed represented almost a quarter of the population of international and overseas Chinese students in Taiwan universities in the fall 2006; unfortunately, information on the size of the respective faculty and staff population (that serve these students) was not available.

Data collection lasted for approximately 3 months and resulted in 1,174 complete student surveys (with another 123 surveys that had incomplete data) and 189 usable faculty and staff surveys (with another 36 unusable surveys). Although our response rates are at best an approximation, given the problems in identifying the target groups on some campuses, our 1,174 complete student surveys reflect about a quarter of those we surveyed, and most importantly, no evidence exists of non-response bias based on student type or university selected. However, for the faculty and staff survey, our conservative estimate is that the response rate appears to be a little less than 20%, although this estimate may be artificially low due to measurement error problems in identifying the correct size of the respective faculty and staff sample: for example, we were told on several occasions that university personnel had originally identified a number of individuals who were thought to be involved with international and overseas Chinese students, but were later informed that this was not the case; unfortunately, the more reliable and, of course, lower numbers were never provided to us.

When the demographics of the respondents were examined, we found that 802 of the students (68%) were overseas Chinese (with 261 of them attending preparatory schools) and 372 of them (32%) were international students with 37 different nationalities represented in the sample. The largest populations of students were from Malaysia (264), Myanmar (139), Indonesia (98), Hong Kong (59), the People's Republic of China (235), and North America (66). The number of male students (49.7%) and female students (50.3%) was virtually equal. Most students were single (99%), attended a public university (79%), and were in their first-year at the university (60%). Among the 189 faculty and staff that responded, the majority were female (65%), married (66%), worked at a public university (73%), and were staff members (71%) rather than faculty.

Instrumentation

The international and overseas Chinese students in our sample received a slightly modified copy of the widely used Michigan International Student Problem Inventory (MISPI) (Porter 1993) that addressed the following 11 potential problem areas for students: admissions and selection, orientation services, academic advising and records, socio-personal, living and dining, health services, religious services, student activities, financial aid, placement services, and the English language. In order to these 11 categories, we added an additional one—Chinese language—that reflected the unique administration of this instrument in Taiwan, since the original instrument was intended for use in English-speaking countries only. Within this category, we replicated the questions exactly from the English language category in the original instrument so that we could compare responses between the two language categories.

For ease of exposition, we call this new instrument the Taiwan International Student Problem Inventory (TISPI). Within each of these 12 areas, students were asked to rate the extent to which a series of 12 statements represented a major problem, moderate problem, minor problem, or no problem at all. This information was then numerically scored on a 1–4 scale (with 1 indicating no problem and 4 indicating a major problem) and an average score was produced for each student in each potential problem area.

The faculty and staff working with the international students received a modified version of the TISPI that eliminated the 12 statements within each of the problem areas and replaced them with four category-specific overarching questions. This modification was necessary because often times the questions within each category were too student-specific; for example, one of the student activities questions required students to rate their concerns about political discussions—something we felt that most faculty and staff were not sufficiently knowledgeable about to answer. As such, we carefully constructed four general questions within each category that effectively spanned the 12 individual questions and then used a group of university faculty and staff to review and validate these overarching questions. In this manner, we effectively traded off pseudo-precision for accuracy, significantly reducing the amount of measurement error in our faculty and staff survey, now named the Taiwan International Student Advisor Problem Inventory (TAISAPI). As was done with the student survey, an average score was produced for each faculty and staff member (on the 1–4 scale) in each potential problem area.

For both the student and faculty/staff survey, demographic information was also collected for later use in the regression analysis. This information included such
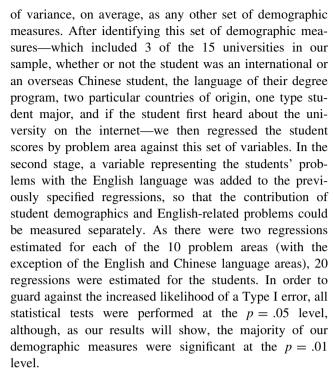
standard demographic measures as gender, class level, university attended, major, and country of origin for the students, as well as such faculty and staff measures as university type (public/private), respondent status (faculty/staff), the number of countries represented at the university, language used in teaching, and whether or not the university had an intensive English program.

In addition, versions of both surveys were produced in Chinese as well as in English so that respondents could choose to answer in whatever language they felt most comfortable. However, since any errors in translation could alter the content validity of our instruments, we enlisted the help of five Taiwanese teachers, four of whom graduated with either a doctorate or masters degrees from an American university. We asked each one of these individuals to first translate the surveys themselves from English to Chinese, and then via a mini-Delphi method the five translations were compared and discussed until a final consensus emerged regarding the most accurate translation for each item in the instruments. In addition, we also queried the teachers about the appropriateness of the general categories used in the surveys, and all agreed that since universities in Taiwan and the United States are organized in similar ways that the categories and questions were all relevant, helping us to establish the face validity of the instruments.

Procedures

After the target populations were identified on the 15 campuses by the International Student Services, Student Affairs, or Academic Affairs offices, surveys were distributed in three distinct ways. These included the campus mail system, the Offices for International Students or Overseas Chinese Students, as well as being distributed in classes composed entirely of international and overseas Chinese students. After data collection, we compared the student responses with the faculty and staff responses for each of the 12 problem areas by using a series of independent sample t-tests conducted at the $p = .05$ level. Following these statistical comparisons, we then tested for differences among the three groups of students (international, overseas Chinese non-preparatory, and overseas Chinese preparatory) in each of the problem areas and statistically compared the faculty and staff responses to each of the three student groups.

In the second part of the analysis, we used hierarchical regression analysis to decompose the variation in student responses into a demographic component and a component measuring the extent of their problems with the English language. To do this, we first identified a core set of demographic measures that when regressed against each of the specific problem areas explained the largest amount

of variance, on average, as any other set of demographic measures. After identifying this set of demographic measures—which included 3 of the 15 universities in our sample, whether or not the student was an international or an overseas Chinese student, the language of their degree program, two particular countries of origin, one type student major, and if the student first heard about the university on the internet—we then regressed the student scores by problem area against this set of variables. In the second stage, a variable representing the students' problems with the English language was added to the previously specified regressions, so that the contribution of student demographics and English-related problems could be measured separately. As there were two regressions estimated for each of the 10 problem areas (with the exception of the English and Chinese language areas), 20 regressions were estimated for the students. In order to guard against the increased likelihood of a Type I error, all statistical tests were performed at the $p = .05$ level, although, as our results will show, the majority of our demographic measures were significant at the $p = .01$ level.

In the final part of our analysis, we repeated the first part of our student regression analysis with the faculty and staff data; specifically, we first identified a core set of demographic measures for the faculty and staff and then used them in regressions designed to explain variation in faculty and staff perceptions of student problems. These demographic measures included the language used in teaching international and overseas Chinese students at their university, whether or not the university had an intensive English program, the number of countries represented by students at their university, the gender of the respondent, their primary employment status (faculty or staff), and whether or not the university was public or private. This analysis consisted of 12 regressions—one for each of the potential student problem areas—and was also conduced at the $p = .05$ level.

Results

As shown in Table 1, when the scores for the faculty and administrators were tabulated for each area and compared to the scores from the students, several powerful insights emerged. Perhaps the most important of these is that our group of 1,174 international and overseas Chinese students experienced only minor problems in 11 of the 12 potential problem areas (since the mean scores were between 1.5 and 2.5) and no problems at all in the area of religious services (since the mean score was below 1.5). This result is especially noteworthy, since the majority of the students in our sample were in their first-year at the university, when

Table 1 Ranking of mean adjustment problem levels

Ranking of mean adjustment problem levels by area for all students	Mean adjustment problem levels for all students	Mean faculty/staff perceptions of the adjustment problems and their ranking (in parentheses)
1. Financial aid	2.11	2.44 (3)
2. Placement services	2.00	2.41 (4)
3. English language	1.99	2.17 (7)
4. Academic advising	1.89	2.25 (6)
5. Admissions and selection	1.84	2.60 (2)
6. Chinese language	1.78	2.72 (1)
7. Living and dining	1.75	2.16 (8)
8. Social-personal	1.75	2.64 (5)
9. Health services	1.69	2.00 (10)
10. Orientation services	1.65	1.87 (11)
11. Student services	1.64	2.02 (9)
12. Religious services	1.44	1.78 (12)

the effects of culture shock might be expected to be the greatest. Not surprisingly, issues surrounding financial aid received the greatest concern, followed by placement services, problems with the English language, and academic advising and records. And with the exception of religious services, the differences among the least four problematic areas were quite small, suggesting that such potential problem areas as health services, orientation services, and student activities were hardly problematic at all, scoring at the bottom end of the minor problem continuum.

When these responses were compared with the perceptions of the problems by the faculty and staff, a second powerful insight emerged—in all 12 problem areas faculty and staff *overestimated* the extent of the problems that the students were facing. Moreover, the magnitude of these differences were highly significant, suggesting that the observed differences between students and the perceptions of faculty and administrator were not likely to have occurred by chance ($p = .01$). Furthermore, this finding held even when we disaggregated the students into their natural functional groupings—overseas Chinese, international, and preparatory—in that faculty and administrators consistently overestimated the extent of the problems faced by each the three groups for all but one category and type (English Language problems for the preparatory students).

A third interesting insight to emerge from the analysis of the combined groups concerns the relative importance of the 12 problem areas. For example, as shown in the above table, there was a reasonably close correspondence between the perceptions of faculty and staff and students

regarding the areas where there were the fewest problems; in particular, the four lowest areas (health services, orientation services, student activities, and religious services) were rated as such by both groups. However, among the four areas rated as most problematic by the students, faculty and staff identified only two of them (financial aid and placement services), while the two areas that they thought were the most problematic—the Chinese language and admissions and selection—were only rated in the middle of the pack by the students (#6 and #5, respectively). Other than these two misperceptions, there was a general consensus among the two groups, suggesting that the faculty and administrative staff have a reasonable accurate idea of the areas in which students experience the most problems while attending universities in Taiwan.

In order to get a sense of how the adjustment problems of students might vary by type, Table 2 presents the rank ordering of student problems as well as the mean scores by category for the three groups of students in our sample—overseas Chinese, international, and preparatory. Examination of this table shows that although all three groups experienced only minor problems (since all but one of the categorical means were between 1.5 and 2.5), there were still significant differences between the groups. For example, the preparatory students consistently experienced the most problems, followed by the overseas Chinese, and then the international students. Operationally, this meant that the preparatory students experienced significantly more problems in 5 of the 12 areas (admissions and selection, academic advising and records, living and dining, financial aid, and the English language) than the overseas Chinese students, and significantly more problems than the international students in 10 of the 12 measured areas (the exceptions being student activities and the Chinese language). Not surprisingly, the only area where the international students experienced more problems than the overseas Chinese was in the area of Chinese language. And with the exception of the English and Chinese language comparisons, where the differences were significant at the $p = .05$ level, all of the other comparisons were statistically significant at the $p = .01$ level, suggesting that these results did not occur by chance.

In addition to describing and comparing the extent of the problems faced by international students and the perceptions of these problems by the faculty and administrative staff charged with their oversight, we also used regression analysis to decompose the variation in student problems into a series of demographic factors and problems with the English language. As described in the methods section, the 10 dependent variables used in the regression analysis were the individual student scores in all but two of the problem areas (with Chinese and English excluded) and the independent variables used included 3 of the 15 universities

Table 2 Ranking and mean adjustment problem levels (in parentheses) for all groups of students

Overseas Chinese students	International students	Preparatory students
English language (2.15)	Chinese language (2.25)	Financial aid (2.31)
Financial aid (2.01)	Financial aid (1.91)	English language (2.27)
Placement services (2.04)	Placement services (1.84)	Academic advising (2.11)
Academic advising (1.94)	Admissions and selection (1.69)	Placement services (2.06)
Admissions and selection (1.86)	Academic advising (1.66)	Admissions and selection (2.01)
Social-personal (1.79)	Living and Dining (1.65)	Living and Dining (1.88)
Living and Dining (1.77)	Social-personal (1.62)	Social-personal (1.85)
Health services (1.74)	Student activities (1.57)	Health services (1.79)
Orientation services (1.71)	English language (1.55)	Orientation services (1.68)
Student activities (1.68)	Health services (1.55)	Student activities (1.63)
Chinese language (1.59)	Orientation services (1.55)	Religious services (1.51)
Religious services (1.50)	Religious services (1.32)	Chinese language (1.51)

represented in the study (University #1, University #2, and University #3), whether or not the student was an international or an overseas Chinese student (Student Type), the language of their degree program (Language of Program), country of origin (Indonesia, Mainland China), one particular student major (Tourism), one of the many possible ways that students first heard about the university (Internet), and of course, their problems with the English language (English language).

In order to get a feel for the extent of the variation explained by the demographic measures and the extent of students' problems with the English language, Table 3 shows the R^2 from the final demographic regressions for each of the problem areas as well as the change in R^2 that resulted from adding the variable measuring the extent of students' problems with the English language. Examination of this table reveals that problems with the English language explain more variation in overall student problems than do all the other demographic factors combined; in fact, in four of the 10 problem areas (financial aid, placement services, socio-personal, and student activities), problems with the English language explained more than twice as much of the variation in student problems as did demographic factors. When combined with the fact that these 10 models explained between 15% (for religious services) and 31% (for academic advising and records) of the variation in international student problems, these results suggest quite strongly that international student problems can be traced, in part, to differences in their facility with the English language.

In order to examine the effect sizes for the significant variables in these regression models, Table 4 provides the estimated coefficients and levels of significance for the set of 10 independent variables used in the final regression models. As shown in this table, the English language variable dominates both in terms of effect size and number of occurrences of statistical significance, with the variable

Table 3 Changes in R^2 associated with the demographic measures and the English language variable as well as the final R^2 from the hierarchical regression models

Student problem areas	R^2 associated with demographic measures	R^2 change associated with English language measures	Final R^2
1. Financial aid	.07	.14	.21
2. Placement services	.06	.13	.19
3. Academic advising	.13	.18	.31
4. Health services	.08	.14	.22
5. Social-personal	.07	.16	.23
6. Admissions and selection	.09	.12	.21
7. Living and dining services	.08	.10	.18
8. Orientation services	.07	.10	.17
9. Student activities	.07	.14	.21
10. Religious services	.06	.09	.15

appearing highly significant in all 10 final regressions. More importantly, the effect size varies between .20 and .38, suggesting that every point increase (on a 4-point scale) in problems with the English language translates into between about a fifth and two-fifths of a point increase in other problem areas. Furthermore, in 6 of the 10 problem areas (financial aid, placement services, academic advising and records, health services, social-personal, and living and dining) the English language effect was larger than any of the other effect sizes within each problem area, once again suggesting the importance of this critical variable in explaining the extent of adjustment problems for students studying abroad.

Table 4 Estimated coefficients and levels of significance for variables in the final regression models

Independent variables	Financial aid	Placement services	Academic advising	Health services	Social personal
University #1	−.26**	−.26**	−.17**	−.17**	−.15**
University #2		−.22**	−.23**	−.18*	
University #3			.11**		
Student Type		−.10*			
Indonesia	.21**	.20**	.30**	.25**	.27**
Mainland China	−.10*	−.11*	.09*	.21**	
Language of program				−.09*	−.08*
Tourism				−.26*	
Internet				.10*	.09*
English language	.38**	.32**	.36**	.29**	.29**

Independent variables	Admissions and selection	Living and dining	Orientation services	Student activities	Religious services
University #1	−.20**	−.18**	−.18**	−.14*	
University #2		−.17*	−.20**	−.17*	−.16*
University #3	.11**	.09**		−.08*	
Student type					
Indonesia	.29**	.19**	.32**	.34**	.28**
Mainland China		.14**	.13**	.12**	.09**
Language of program		−.08*	−.07*	−.10**	−.12**
Tourism	.10**	.17**	.08*	.13**	
Internet	.27**	.27**	.23**	.28**	.20**

Note: Only statistically significant estimated coefficients are shown

*p < .05, two-tailed

**p < .01, two-tailed

The next most significant set of demographic variables in these regressions included country of origin, where students from Indonesia and Mainland China set themselves apart from other students in that those from Indonesia had significantly more problems in all 10 areas than other students, while those from mainland China experienced more problems than other students in six areas and fewer problems in two. Close examination of this table reveals that the problems experienced by Indonesian students consistently exceeded those from other countries (with the exception of Mainland China) by almost a quarter-point on the 4-point scale, with effect sizes ranging from .19 to .34; similarly, students from Mainland China reported problems that averaged closer to an eighth of a point either higher (academic advising and records, health services, living and dining, orientation services, student activities, and religious services) or lower (financial aid and placement services) than other non-Indonesian students. More importantly, since these were the only two countries out of the 37 represented in the sample that displayed any consistent pattern of statistical significance, this suggests a sort of commonality of problems among the international students in our sample, regardless of their country of origin.

Another important set of independent variables are those that describe three of the particular universities in the sample. The first two universities, referred to as University #1 and University #2, displayed consistently negative patterns of statistical significance, suggesting that students at these two universities experienced significantly fewer problems than did those at the other 13 universities represented in our sample. Specifically, the first university was significant in 9 of the 10 final regressions (with the exception of religious services) with estimated coefficients ranging from −.14 to−.26, while the second university was significant in 7 of the 10 final regressions with estimated coefficients ranging from −.16 to −.23. Taken together, students at these two universities experienced on average, about a fifth of a point fewer problems than did students at other universities. However, in addition to students at these two schools experiencing fewer problems than other students, the results of our analysis also revealed that students at a third university (University #3) experienced significantly more problems than students at other schools—at least in 4 of the 10 areas; these coefficients range from .09 to .11, suggesting that these students experienced about a tenth of a point more problems than other students.

In addition to the particular university attended, those students whose degree program was in English experienced significantly fewer problems in 6 of the 10 areas (health services, social-personal, living and dining, orientation services, student activities, and religious services), although these differences were relatively small—about a tenth of a point on a 4-point scale. Given the importance of our English language measure, this finding comes as no surprise; we suspect that those enrolled in degree programs in English have more confidence in their English language skills than those that are not.

Another variable that displayed a consistent pattern of statistical significance was if the student had found out about the university through the internet, rather than through a family member, friend, or through its reputation. As it turns out, students that first found out about the university through the internet experienced significantly more problems than other students in six different areas—health services, socio-personal, admission and selection, living and dining, orientation services, and student activities—although in practical terms, the differences were quite small, averaging about a tenth of a point.

The last independent variable used in our core demographic regression model was a dichotomous variable that signaled whether or not the student was majoring in tourism. Despite the importance of this variable among two of the three groups of students—preparatory and overseas Chinese—the variable was significant in only one area

(health services) when run on all students. And, although, the coefficient was negative and fairly large, suggesting that students majoring in tourism experience almost a quarter-point fewer problems in the area of health services, the fact that this variable was only significant in health services suggests that either the variable effects preparatory students and overseas Chinese students in diametrical ways, so that taken together they tend to cancel each other out, or that among all students this variable was highly correlated with other measures used in the core model and as a result, crowded out by the presence of multicollinearity.

In addition to examining the extent to which our demographic measures helped to explain variation in the responses of students, we also repeated this analysis—albeit with a different core set of demographic measures—with our faculty and staff data. As described in the methods section of this article, we ultimately ended up with the following six core measures for use in our regression analysis; the language used in teaching international and overseas Chinese students at their university, whether or not the university had an intensive English program, the number of countries represented by students at their university, the gender of the respondent, their primary employment status (faculty or staff), and whether or not the university was public or private. The results of these regressions, or at least the regressions that displayed a significant F-statistic, are shown in Table 5 and reveal that these models explain only between 10% and 15% of the

Table 5 Estimated coefficients, level of significance, and R^2 for final faculty/staff regression models

Independent variables	Financial aid	Placement services	Academic advising	Health services	English language
Language used teaching	.31*	.40**	.27*	.29**	.43**
Number of countries					
Gender				−.22*	
Intensive English program		−.57**	−.40**		
Faculty/Staff			−.41**		
Private/Public					
R^2	.08	.14	.17	.09	.14

Independent variables	Admission and selection	Chinese language	Orientation services	Student activities	Religious services
Language used teaching	.29*		.36**	.24*	.39**
Number of countries		.02**			
Gender					
Intensive English program	−.42**	−.39**	−.26*		
Faculty/Staff					
Private/Public	−.51**	−.43**			
R^2	.12	.15	.11	.03	.09

Note: Only statistically significant estimated coefficients are shown

*$p < .05$, two-tailed

**$p < .01$, two-tailed

variation in the perception of student problems. However, in these 10 significant models 2 variables—both involving the English language—were highly significant.

The first of these, which measured the language used in teaching international and overseas Chinese students, found that classes taught in English resulted in the perception of greater student problems in 9 of the 10 areas (with the exception, not surprisingly, of problems with the Chinese language). Similarly, at those universities that had intensive English programs for their students, faculty and staff felt that international and overseas Chinese students had significantly fewer problems in the areas of placement services, academic records, admission and selection, the Chinese language, and orientation services. Taken together, these two results provide support for the problems actually experienced by the students, since the fewer problems they had with the English language, the fewer problems experienced in other areas.

Although the other variables used in this analysis displayed limited patterns of significance, we also found that in two areas (admission and selection and the Chinese language), faculty and staff at private universities felt that their students experienced fewer problems; we also found that staff members perceived that students experienced fewer problems (in fact almost half a point lower) in the area of academic advising and records than did faculty members. In addition, we found that male faculty and staff members felt that the international and overseas Chinese students experienced fewer problems in health services than did females, and finally, that the more countries represented in the student body on campus, the more problems that faculty and staff expected students to have with the Chinese language.

Policy implications

Our three main findings—that the extent of the problems faced by international and overseas Chinese students studying in Taiwan were relatively minor, that the extent of these problems were overestimated by the faculty and staff charged with their care, and the overarching importance of the English language in helping to explain these problems—suggest several important lessons for university administrators. Of course, given the fact that the actual problems experienced by students in our sample were minor and that, fortunately, the extent of these problems were overestimated (rather than underestimated) by the faculty and staff, it is clear that the sampled universities in Taiwan are doing something right; as such, most of our discussion centers on the importance of problems with the English language, since this factor explained more of the variance in student problems than any other measure.

Given the importance of student problems with the English language, which may be caused, for instance, by students enrolling in English language degree programs without the proper training, or because some faculty members in these programs themselves are not native English speakers, or perhaps simply because the majority of textbooks are written in English, there are several concrete steps that universities can take to minimize the extent of these problems. For example, in addition to making sure that entering students have easy and open access to English tutoring centers, universities are advised to pay careful attention to the fluency with which their faculty members that teach in English actually speak English, since any problems that these faculty members have with the language are magnified 10-fold with their students. In addition, universities are urged to provide bilingual copies of all printed materials—including admissions material, promotional documents, and of course, website information—so as to facilitate communication while simultaneously providing students with additional experience working in their second language. And finally, of course, universities in Taiwan are urged to pay close attention to the English language skills of their entering international and overseas Chinese students, either by requiring higher TOEFL scores for admission, or if this is not possible given the financial demands of the university, consider putting together a several week orientation program for those lacking in, or wishing to improve their facility with the English language.

In addition to these suggestions, universities are also urged to engage in more research on this subject themselves so that they might understand why, for example, overseas Chinese students (especially studying in preparatory schools) appear to have more problems than international students, which at least from our perspective seems somewhat counterintuitive. Although, in this case, we might suggest a differential preparation hypothesis, in which overseas Chinese students might (incorrectly) assume that studying in Taiwan would be relatively easy, because they already speak Chinese, whereas international students may have taken more time preparing themselves psychologically and emotionally for studying in a country where they knew that the majority of individuals would not be speaking their native language, the reality of the situation is that individual universities need to do more research in this area, since our findings are not university specific.

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