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ABSTRACT

Attempts to address the dearth of research on Asian and Pacific-Islander community college students by exploring the predictors of persistence and retention, and the course taking patterns of Asian Pacific American students enrolled in urban community colleges. This correlational study utilized data collected for the Transfer and Retention of Urban Community College Students (TRUCCS). Beginning in the academic year 2000 and continuing the next three years, the TRUCCS project was designed to be a longitudinal study of the goals, success and academic patterns of 5,000 students attending nine urban Los Angeles Community Colleges. Of the 4,433 responding students, 16.6% of the students identified themselves in the category described as Asian-Pacific American. The research instrument was a 47-item questionnaire informed by theories of student retention, persistence, and success. The results of this study confirm that Asian Pacific Americans are different from other larger or more dominant ethnic groups and that there are significant differences between the various ethnic groups that comprise the Asian Pacific American group. These differences suggest that significant information about unique and identifiable ethnic groups is being lost when data is aggregated into larger ethnic groupings. Appended is summary information for each survey item. (Contains 33 references.) (RC)

Running Head: RETENTON OF ASIAN PACFIC AMERICANS

Retention, Persistence, and Course Taking Patterns of Asian Pacific Americans Attending Urban Community Colleges

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By

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Introduction

The community colleges have long served as the port of entry for minority students into the hierarchy of higher education. Rates of minority student enrollment in community colleges continue to rise due to the low cost and proximity near the family home (Rendon, 2000). Asian Pacific Americans are included in the minority student population experiencing similar gains in enrollment. Despite increases in the general population of Asian Pacific Americans, the numbers of Asian Pacific American community college students transferring to four-year institutions has not increased proportionately similar to other minority groups, that is, Asian and Filipino groups have decreased by 18.92% and 10.79% respectively, while Blacks and Latinos have increased by 12.65% and 22.73% respectively (California Postsecondary Education Commission, 2001).

California Community College Transfer by Ethnicity

Year	Asian	Black	Filipino	Latino	Native American	No Response	Non Resident Alien	Other	White	Total Transfer Students
1997	6993	5226	2150	11507	771	2827	1078	451	28278	59281
% of Total	11.80%	8.82%	3.63%	19.41%	1.30%	4.77%	1.82%	0.76%	47.70%	
1998	6119	4964	1957	11079	669	3007	1108	476	25475	54854
% of Total	11.16%	9.05%	3.57%	20.20%	1.22%	5.48%	2.02%	0.87%	46.44%	
1999	5837	4611	1819	10795	563	2936	1092	423	23007	51083
% of Total	11.43%	9.03%	3.56%	21.13%	1.10%	5.75%	2.14%	0.83%	45.04%	
2000	6626	5374	1069	13222	734	4549	1363	492	27608	61937
% of Total	10.70%	8.68%	1.73%	21.35%	1.19%	7.34%	2.20%	0.79%	44.57%	
2001	5670	5887	1918	14123	714	3523	1425	465	27290	61015
% of Total	9.29%	9.65%	3.14%	23.15%	1.17%	5.77%	2.34%	0.76%	44.73%	
% Change	-18.92%	12.65%	-10.79%	22.73%	-7.39%	24.62%	32.19%	3.10%	-3.49%	

Hsia (1988) and Peng (1985) citing the National Centers for Educational Statistics, High School and Beyond Survey that started in 1980 and followed the sample that enrolled in 2- and 4-year colleges by June 1981, noted enrollment by ethnic groups as follows:

Ethnic Group	2-Year College Number of Students that Persisted (Percentage)	4-Year College Number of Students that Persisted (Percentage)
Asian American	70	86
Black	61	71
Hispanic	65	66
Native American	61	81
White	57	75
Total (All Groups)	59	75

While it is reported that the persistence rate of Asian students in higher education is high (Hsia, 1988; Peng, 1985), the characteristics of many Asian Pacific American students, particularly those enrolled at the community colleges, may not be predictive of persistence in the context of Tinto's (1975, 1987) retention model. Research suggests that a lack of persistence in the Asian Pacific American population may be in part due to limited social integration. Moreover, research regarding Asian Pacific American community college students is very limited. This study focuses on identifying the predictors of persistence and retention, and the course taking patterns of Asian Pacific American students in urban community colleges

There is a dearth of research on Asian and Pacific-Islanders possibly due to relatively small numbers of participants or the lumping together as either non-white or part of another minority category (Grubb, 1990). More often than not, Asian American students have either been disregarded in research studies or aggregated with other minorities (Grubb, 1990) rather than identified as a separate and distinct minority group. However in light of the growing numbers of Asian and Pacific-Islanders particularly in urban areas where they are likely to attend community colleges, more research needs to be done to identify what characteristics differentiate Asian Pacific American students from other groupings of community college students who successfully transfer to four-year institutions. It is especially valuable to identify those characteristics since data that is available indicate greater numbers of Asian Pacific American

attain the baccalaureate degree than comparison groups (Hsia, 1988). The lack of information regarding the characteristics of Asian Pacific American community college students has implications, e.g., design of programs and student services based on the needs and experiences of other minority group students, for public and educational policy makers.

In the limited research recognizing Asian Pacific Americans, it appears that there may be some confounding factors that reduce the predictiveness of Tinto's (1975, 1987) model for student retention. Tinto's model addresses the association between students satisfying and rewarding encounters with formal and informal academic and social systems. Loo and Rolison (1986) reported greater alienation among minority students attending a predominantly white university. Despite the possible absence of social integration, Peng (1985 cited in Hsia, 1988, 132) reports that Asian Americans are more likely to continue at their institution of choice. Moreover, Tan (1994) reported that social integration is not a significant factor in promoting academic performance for Asian-Americans.

In one of the few studies found on Asian Pacific Americans, Makuakane-Drechsel and Hagedorn (2000) reported that four factors - cumulative grade point average, financial aid, average credit hours and enrollment on a specific campus - were significant factors in promoting persistence for students pursuing technical majors. Whereas, reverse transfer and attending an urban high school were reported as being significant factors in promoting persistence for liberal arts students only. The factors significantly related to Asian Pacific American populations vary from the retention model constructs developed by Tinto.

Review of the Literature

Context

Tinto (1993) reported that almost one-half of students entering two-year colleges and more than one-fourth (28.5%) of students entering four-year colleges do not continue beyond the

first year. Student non-persistence is cost ineffective and involves a significant loss of human and economic potential, e.g., earnings, social mobility, which for minorities may be a compounded loss (Day & Newburger, 2002).

Keller (2001) has reported that since 1965 immigration has been ethnically very different from previous periods of immigration to the United States. Prior to 1965 nine out of ten immigrants came from European countries and Canada, but since 1965 nearly nine out of ten have come from Latin American, the Caribbean, Asia, and Africa. While it is projected that in the first decade of the 21st century, Latinos will surpass African Americans as the nation's largest minority group, in 1996 Latinos earned only 4% of the college degrees awarded.

Between 1960 and 1990, the number of Asian immigrants in the United States grew from 877,934 to approximately one million individuals who represented four percent of the total population of the United States with continued growth projected (Burr, Burr and Novak, 1999; Humes & McKinnon, 2000). In 1995, Asian Pacific Americans students comprised 5.6% of total college enrollment with increases of 101.7%, 105.4% and 233.3% respectively for undergraduate, graduate school, and professional schools between 1984 and 1995 (Hune & Chan, 1997).

This sustained immigration has presented a set of new problems for public schools in that one person in seven over the age of five is now growing up speaking a language other than English in the home (Keller, 2001). As more and more minority students have accessed higher education in pursuit of social and economic mobility (Cohen & Brawer, 1996), colleges and universities have had to alter their academic programs, admission policies, faculty hiring, and campus activities to accommodate the shift in immigrant students who introduce culture, attitudes, behavioral norms and socioeconomic factors that may be at variance from existent ones (Keller, 2001).

The characteristics of community college minority students, for example, limited proficiency in English may impact the social and academic integration of minority community college students and could be suggestive that these students may be less likely to persist and successfully transfer when considered in the context of Tinto's (1975, 1987) model. Investigators have suggested that for minority students there may be more appropriate predictors other than those identified by Tinto. In fact Tan (1994) and Makuakane-Drechsel and Hagedorn (2000) have reported that more appropriate indicators may be needed specifically for Asian Pacific Americans.

Traditionally, community colleges were developed to serve a collegiate function with the goal of students transferring from the two-year college to a four-year institution. With competing demands by student consumers, it is argued that the collegiate function has diminished and concern is expressed whether or not it should be stopped out altogether (Eaton, 1994b). Notwithstanding the debate on continuing the community colleges' collegiate function, there are growing numbers of requirements for data in particular the impact of the collegiate function as represented by student transfer data and rates for accountability and performance indicator purposes. If, in fact, researchers have reported a diminution in the collegiate function and in turn the transfer function, this may have consequences for all minority students to include Asian Pacific Americans who are attending community college for purposes of preparing for transferring to four-year institutions (Cohen & Brawer, 1996).

Laanan (2000), Hsia (1988), and Mow and Nettles (1999) all have suggested that more research on Asian community colleges students is needed. In the context of the increasing number of minority students attending community colleges, the success of ethnic minorities at the community colleges is an important indicator. In aspiring to enhance their socio-economic standing, the success of ethnic minorities, whose needs may be different than from other

students, may be reflective of the effectiveness of support services and programs. Similarly, the success of ethnic minorities is an important indicator to public and higher education policy makers, who may use the same students' success as program and policy performance measures. This study will seek to answer the questions: What are the predictors of retention and persistence of Asian Pacific American community college students enrolled in an urban community college district? Do the predictors of retention differ by ethnicity? In what types of courses are Asian Pacific Americans enrolling and are success rates, as measured by grade-point-average and course retention, equal for language intensive and math/science intensive courses?

Educational Importance of Study

While there have been some comprehensive studies of community college students, the students involved tended to be categorized as either white or nonwhite with no further breakdown of the nonwhite category despite the inclusion of significant number of identifiable ethnic minority students (Grubb, 1990). Of significance is that the U.S. Department of Education (cited in Jalomo, 2001, p. 262) reports that of all undergraduates 61% of Hispanic undergraduates, 56% of American Indian undergraduates, 47% of African-American undergraduates and 46% of Asian-American undergraduates may be found in two-year institutions. This trend of high percentages of minorities attending community colleges is not a temporary aberration as more members of underrepresented groups are more frequently opting to attend a community college rather than following the traditional route of going directly to a four-year institution (Laanan, 2000) .

Sanchez (2000) building on Tinto's (1975, 1987) work suggests social and academic integration may enhance learning opportunities, which may lead to student persistence. However, for minority students the lack of culturally appropriate college classroom environments may make it impossible for minority students to feel socially integrated. Yet as

reported by Tan (1994), social integration was not a significant factor in promoting academic performance for Asian-Americans. Peng (1985) and Hsia (1988) reported that Asian Americans are more likely to continue at their institution of choice even though the institutions may have white majorities. The question may be raised whether or not Tinto's model is predictive for Asian Pacific American community college students' persistence or and ultimate success to transfer to a four-year institutions or if there are other variables that may be more relevant predictors of persistence and success for minority students and in particular Asian Pacific American community college students transferring to four-year institutions?

With the numbers of minority students matriculating at the community colleges, information regarding minority students becomes important for public and higher educational policy makers. Lanaan (2000), Hsia (1988), and (Mow & Nettles, 1999) all have suggested that more research on Asian community colleges students is needed. Based on studies such as this one that is designed to identify the characteristics of successful Asian Pacific Americans transferring to four-year institutions, it will be possible for decision-makers to design programs that may further facilitate and promote the success of these students.

Ignash (1994) reports that in Los Angeles County, the Asian and Pacific Islander population grew from 6.1 percent in 1980 to 10.8 percent of the total population in 1990. Cuseo (1998) reports that it is anticipated that minority enrollment at community colleges will increase because of cutbacks in scholarships and grants forcing minority student to enroll at less expensive community colleges and because minority students will comprise a larger proportion of high school seniors in the next two decades.

One of the important reasons for this study is that currently there is very limited information about Asian Pacific American community college students. While some research is available regarding Asian students at four-year institutions, little information is available about

Asian Pacific American students at two-year institutions. The identification of characteristics of Asian Pacific American community college students may serve as predictors of students likely to successfully transfer to four-year institutions. With growing numbers of minority citizens, high school graduates and the use of the community college as the port of entry into higher education, information about the Asian Pacific Americans will provide useful information about this category of students for use by public educational policy makers.

Methodology

Research population

This correlational study utilized data collected for the Transfer and Retention of Urban Community College Students (TRUCCS). Beginning in the academic year 2000 and continuing the next three years, the TRUCCS project was designed to be a longitudinal study of the goals, success and academic patterns of 5,000 students attending nine urban Los Angeles Community Colleges (Hagedorn, 2000b).

Of the 4,433 responding students, 16.63% of the students identify themselves in the category described as Asian-Pacific American. In the target sample, the numbers of Asian-Pacific American students break downs as follows: 204 Chinese, 178 Filipino, 104 Japanese, 80 Korean, 68 Vietnamese, 34 Thai, 30 Pacific Islander/Samoan, Hawaiian, or Guamanian, 19 Cambodian, 12 Other Pacific Islanders, and 8 Laotian,.

Instrument and variables

Instrument. A 47-item questionnaire was developed with the target population and research foci in mind. Questionnaire items were developed in the context of theories of student retention, persistence and success by Astin (1984), Bean (1980), Cabrera, Castaneda, Nora, and Hengstler (1992), Hagedorn and Castro (1999), Tinto (1975, 1987, & 1993) and others. Through a series of pilot test the instrument was refined and the revised instrument was then administered

to 5,000 students attending the nine Los Angeles Community Colleges during the Spring semester 2000 (Hagedorn, 2000c). In an effort to insure maximum variation on several independent variables, e.g., remedial versus non-remedial class, participants were identified through a stratified sampling method.

With the assistance of a panel of experts, Hagedorn (2000a, 2000c) examined the construct validity of the independent variables used in the TRUCCS study and determined that they were valid. Tests of reliability were executed on responses to the survey and scales. For this study, survey items used were limited to those with a Cronback alpha ≥ 0.7.

Transcript data for participants was acquired from the Los Angeles Community College District for all students (96%) signing a consent to release the requested information to the researchers. For this study, transcript information for the first semester of the 2001 academic year will be used.

Variables. Course completion ratio is being identified as one of the dependent variables and is used as the measure of academic success. Course completion ratio is defined as the number of courses successfully completed in a given year with a grade of A, B, or C divided by the total number of courses attempted with grades A, B, C, D, F, I (Incomplete), NC (No Credit), or W (Withdrawal) (Hagedorn, Maxwell, Chen, Cypers, and Moon, 2002).

According to Hagedorn et al. (2002), the course completion ratio is particularly appropriate for community college students in lieu of the customary dichotomous measure of retention based on successive enrollments and may be more sensitive as a measure of persistence of community college student. Unlike students at four year institutions, community college students may not face the same consequences of course non-completion as part of a degree completion program, they may enjoy more lenient "stop out" and return in good standing policies, and the measure may better accommodate part-time enrollment prevalent among

community college students. Finally, a community college student may not earn a degree, certificate or transfer to four year colleges and universities without successfully completing the required courses as reflected in the completion ratio ergo the completion ratio is an appropriate measure of academic success.

Grade point average (GPA). GPA is defined as the average grades for the first semester of the 2001 academic year. Hagedorn et al. (2002) noted that while there may be high correlation between the two constructs, the constructs are distinct and therefore, this researcher like Hagedorn has deemed it appropriate to test for both GPA and course completion ratio. The students' grade point average (GPA), grade point average in science (SCIGPA) and grade point average in English (ENGGPAO) are based on grades earned in all courses completed, in science courses, e.g., math, chemistry, other science courses, and in English (language intensive) courses, e.g., English, history, and other English language intensive courses respectively.

Socioeconomic status (SES). In her analysis of a model of community college student immigration, language, GPA, and course completion, Hagedorn et al. (2002) concluded that the traditional method of self-report estimated family income to determine SES was fraught with potential error. This study adopted the Hagedorn et al. (2002) method for estimating SES by using parents' occupations as reported by write-in responses. Write-in responses were then transformed into Occupational Status Scores (OSS) as defined by Terrie and Nam (1994).

The Nam-Powers-Terrie Occupational Status Score is an index scale for the hierarchal ranking of occupations. An OSS score is derived from consideration of educational level attained, median income, and number of persons in each occupation and a score indicates the approximate percentage of persons in the population in occupations having combined average levels of education and income below that for the given occupation (Terrie & Nam, 1994). Like Hagedorn et al. (2002) this researcher used the mean value of the OSS score from the reported

mother's and father's occupation when both were reported and the OSS score of one parent when only one parent's occupation was reported.

Variables' construct validity and reliability. Hagedorn (2000a, 2000c) examined construct validity of the independent variables used in the TRUCCS study and determined that they were valid. Reliability of survey items and scales was established at a Cronback alpha ≥ 0.7.

Other Items. Table 1 reflects the descriptive statistics of frequencies, means, and standard deviations for each of the following variables identified by Hagedorn, Maxwell, Chen, Cypers, and Moon (2002) as being relevant indicators of success at the community colleges as indicated by traditional success outcome measures, i.e., grade point average, and other success measures, i.e., completion ratio. Other items included: age, gender, number of children/stepchildren in household, English ability, ethnicity (Chinese, Korean, Japanese, Filipino, Southeast Asian (Thai, Cambodian, and Vietnamese) and Pacific islanders (Hawaiian, Guamanian, Samoan, and other Pacific islanders), high school grade point average, foreign schools attended, communications with other students, academic integration, obstacles, normative beliefs, beliefs and consequences, subjective norms, current employment status, self perception, aspirations, sense of belonging, science grade point average, English grade point average and institutions with high, medium, and low numbers of Asian Pacific American students.

Data Analysis

Descriptive statistics of items

Using SPSS, version 11.0, the TRUCC data set was recoded as necessary to create the following subset of data as it related to the target population.

Item Descriptive Statistics, Table 1

Item	Mean	Std. Deviation	N
CMPLRATO	.7936	.22040	416
Q29 Age on December 31 of this year	2.78	1.395	416
MEANOSS	50.8271	16.77671	416
Q28 Your gender	1.63	.479	416
Q33 # of children/stepchildren in household	1.40	.686	416
ENGABIL	2.8191	.61458	416
PACIFIC	1.0288	.16758	416
SEASIAN	1.1707	.37668	416
Q30_02 Filipino	1.26	.440	416
Q30_03 Japanese	1.16	.366	416
Q30_04 Korean	1.12	.323	416
Q24 Average grade in high school	6.37	1.752	416
FGNSCH2	1.2957	.45689	416
Q14_2 Telephone/email /student about studies	1.78	1.255	416
ACAINTG	2.0699	.91699	416
OBSTCLS	2.2586	.80408	416
NORMBELF	.1071	.65672	416
BLFSCNSQ	5.2513	1.35965	416
ATUDGOAL	5.9003	.75387	416
SUBJNORM	3.4308	1.45060	416
Q35 Current employment status	2.66	1.108	416
Q36 How do you think of yourself?	2.39	1.234	416
ASPIRA	3.7329	.89047	416
Q37_18 I feel I belong at this college	4.89	1.347	416
SCIGPA	2.9021	.65093	416
ENGGPA	2.8337	.85705	416
INSTHILO	2.4135	.64169	416

Correlational analysis

The relationships between each of the items were investigated using Pearson product-moment correlation coefficient. A number of positive and negative relationships were identified and are summarized in the following table.

Correlations, Table 2

	Acaintg	Atudgoal	Aspira	Blfscnsq	Cmplrato	Engabil	Enggpa	Meanoss	Fgnsch2	Normbelf	Obstcls
Acaintg	1										
Atudgoal	.287**	1									
Aspira	.328**	.396**	1								
Blfscnsq	.136**	.255**	.179**	1							
Cmplrato	-.033	.128*	.051	.011	1						
Engabil	.134**	.313**	.227**	.021	.025	1					
Enggap	-.038	.187**	.053	.032	.428**	.127*	1				
Meanoss	.015	.031	.020	-.080	-.049	.062	.031	1			
Fgnsch2	-.062	.027	-.105*	.003	.078	-.074	.088	.066	1		
Normblf	.230**	.128*	.202**	.424**	-.106*	.080	-.025	-.010	-.013	1	
Obstcls	.162**	-.133**	-.022	.095	-.064	-.191**	.072	.003	-.027	.012	1
Pacific	.175**	-.010	.091	-.009	-.108*	.106*	-.100	-.049	.014	.031	.115*
Q30_01 Chinese	-.002	-.066	.000	-.017	.109*	-.130**	.169**	.026	-.030	-.054	.-.031
Q30_02 Filipino	.080	.230**	.103*	.210**	-.112*	.506**	-.176**	.043	-.015	.189**	-.085
Q30_03 Japanese	-.056	-.171**	-.085	-.198	.028	-.252**	-.002	.067	.050	-.146**-	.163**
Q30_04 Korean	-.099*	-.043	-.169**	-.149**	-.004	-.117*	-.127*	-.070	.090	-.109*	.009
Scigpa	.099	.254**	.149*	.056	.581**	.113	.757**	-.114	.060	-.036	-.048
Seasian	.088	-.036	.119*	.047	-.032	-.030	.027	-.025	-.028	.083	.085
Subjnorm	.256**	.079	.110*	.494**	-.082	-.056	.001	-.192**	.021	.501**	.140**
Q14_2 Tel/email	.569**	.074	.077	.135**	.051	.045	.010	-.123*	-.110*	.248**	.130**
Insthilo	.001	-.117*	-.070	.003	.021	-.151**	-.038	-.145*	-.023	-.023	.020

Correlations

	Pacific	Q30_01 Chinese	Q30_02 Filipino	Q30_03 Japanese	Q30_04 Korean	Scigap	Seasian	Subjnorm	Q14_2 Tel/email.	Insthilo
Pacific	1									
Q30_01 Chinese	-.038	1								
Q30_02 Filipino	.028	-.351**	1							
Q30_03 Japanese	.082	-.226**	-.199**	1						
Q30_04 Korean	.071	-.194**	-.150**	-.077	1					
Scigpa	-.048	.163*	-.135*	-.060	-.062	1				
Seasian	.113*	-.190**	-.227**	-.092	-.086	-.053	1			
Subjnorm	-.078	.021	.135**	-.211**	-.172**	.037	.097	1		
Q14_2 Tel/email	.136**	.071	.026	-.105*	-.069	.086	.060	.277**	1	
Insthilo	-.022	.281**	-.171**	-.085	-.061	.031	.066	.059	.099*	1

*. Correlation is significant at the 0.01 level (2-tailed).

**. Correlation is significant at the 0.05 level (2-tailed).

Of particular note are the following stronger correlations identified. A strong positive correlation was found between the completion ratio and higher English GPA with an $r = .428$, $n=416$, $p<.001$ and higher science GPA with an $r = .581$, $n = 416$, $p<.001$. A very high correlation between English GPA and science GPA at $r = .757$, $n = 416$, $p<.001$ with higher English GPAs positively associated with higher science GPAs. Other moderate positive correlations found included an $r = .494$, $n = 416$, $p<0.01$ between subjective norms (Why is college important?) and beliefs and consequences (Influences on the decision to come to the particular college); an $r = .501$, $n = 416$, $p<0.01$ between subjective norms and normative beliefs (Reasons for coming to the college selected); and an $r = .424$, $n = 416$, $p<0.01$ between normative beliefs and beliefs and consequences.

Hierarchical Multiple Regression

A hierarchical multiple regression analysis was used to determine how much of the variance in the dependent variable, completion ratio, can be explained by the independent variables organized into three categories conditioning, independent, and mediating variables (Refer to Appendixes, Table 7, Item Descriptions). The results are of the regression are noted in the following model summary:

Model Summary, Table 3

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.223	.050	.026	.21750	.050	2.118	10	405	.022
2	.228	.052	.024	.21776	.002	.515	2	403	.598
3	.493	.243	.192	.19809	.191	6.998	14	389	.000

a Predictors: (Constant), Q30_04 Korean, Q28 Your gender, MEANOSS, Q33 # of children/stepchildren in household, PACIFIC, ENGABIL, SEASIAN, Q29 Age on December 31 of this year, Q30_03 Japanese, Q30_02 Filipino

b Predictors: (Constant), Q30_04 Korean, Q28 Your gender, MEANOSS, Q33 # of children/stepchildren in household, PACIFIC, ENGABIL, SEASIAN, Q29 Age on December 31 of this year, Q30_03 Japanese, Q30_02 Filipino, Q24 Average grade in high school, FGNSCH2

c Predictors: (Constant), Q30_04 Korean, Q28 Your gender, MEANOSS, Q33 # of children/stepchildren in household, PACIFIC, ENGABIL, SEASIAN, Q29 Age on December 31 of this year, Q30_03 Japanese, Q30_02 Filipino, Q24 Average grade in high school, FGNSCH2, Q36 How do you think of yourself?, Q14_2 Telephone/email /student about studies, Q37_18 I feel I belong at this college, INSTHILO, SCIGPA, OBSTCLS, NORMBELF, ASPIRA, BLFSCNSQ, ENGGPA, ATUDGOAL, SUBJNORM, ACAINTG, Q35 Current employment status

With an $r^2 = .243$, F Change = 6.998, p = .000 at the third level of the regression in which all items are included, an ANVOA to test the means was executed with the following results:

ANOVA, Table 4

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.002	10	.100	2.118	.022
	Residual	19.158	405	.047		
	Total	20.160	415			
2	Regression	1.002	12	.084	1.757	.053
	Residual	19.158	403	.048		
	Total	20.160	415			
3	Regression	4.858	26	.187	4.750	.000
	Residual	15.302	389	.039		
	Total	20.160	415			

a Predictors: (Constant), Q30_04 Korean, Q28 Your gender, MEANOSS, Q33 # of children/stepchildren in household, PACIFIC, ENGABIL, SEASIAN, Q29 Age on December 31 of this year, Q30_03 Japanese, Q30_02 Filipino

b Predictors: (Constant), Q30_04 Korean, Q28 Your gender, MEANOSS, Q33 # of children/stepchildren in household, PACIFIC, ENGABIL, SEASIAN, Q29 Age on December 31 of this year, Q30_03 Japanese, Q30_02 Filipino, Q24 Average grade in high school, FGNSCH

c Predictors: (Constant), Q30_04 Korean, Q28 Your gender, MEANOSS, Q33 # of children/stepchildren in household, PACIFIC, ENGABIL, SEASIAN, Q29 Age on December 31 of this year, Q30_03 Japanese, Q30_02 Filipino, Q24 Average grade in high school, FGNSCH, Q36 How do you think of yourself?, Q14_2 Telephone/email /student about studies, Q37_18 I feel I belong at this college, INSTHILO, SCIGPA, OBSTCLS, NORMBELF, ASPIRA, BLFSCNSQ, ENGGPA, ATUDGOAL, SUBJNORM, ACAINTG, Q35 Current employment status

d Dependent Variable: CMPLRATO

In the regression analysis, Chinese were held as the constant (and included in the analysis) and against which comparisons with other ethnic groups could be measured. The tolerances for collinearity were within acceptable limits and ranged from.534 to .985. As indicated in the model summary, an $r^2 = .243$, F Change = 6.998, p = .000 was identified.

With completion ratio as the dependent variable, three individual items are indicated as have significant difference from other items. The items with significant difference being telephone/email communications with other students with a t = 2.22, $p<.05$, science grade point average with a t = 6.121, $p<.05$, and English grade point average with a t = 2.478, $p<.05$. No other individual items had statistically significant differences.

The detailed results of the hierarchical regression analysis are reflected in the following table:

Coefficients, Table 5

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	.872	.122		7.152	.000		
	Q29 Age on December 31 of this year	1.235E-02	.008	.078	1.548	.122	.921	1.086
	MEANOSS	-4.936E-04	.001	-.038	-.770	.442	.985	1.015
	Q28 Your gender	3.338E-02	.023	.073	1.476	.141	.971	1.029
	Q33 # of children/stepchildren in household	6.643E-03	.016	.021	.407	.684	.907	1.103
	ENGABIL	4.467E-02	.021	.125	2.148	.032	.698	1.434
	PACIFIC	-.131	.066	-.100	-1.988	.047	.934	1.071
	SEASIAN	-3.722E-02	.030	-.064	-1.223	.222	.867	1.153
	Q30_02 Filipino	-8.805E-02	.030	-.176	-2.950	.003	.660	1.515
	Q30_03 Japanese	2.103E-02	.031	.035	.668	.505	.859	1.164
	Q30_04 Korean	-1.104E-02	.034	-.016	-.321	.748	.926	1.080
2	(Constant)	.873	.126		6.936	.000		
	Q29 Age on December 31 of this year	1.262E-02	.009	.080	1.400	.162	.725	1.380
	MEANOSS	-4.921E-04	.001	-.037	-.761	.447	.974	1.027
	Q28 Your gender	3.340E-02	.023	.073	1.444	.150	.932	1.072
	Q33 # of children/stepchildren in household	6.574E-03	.016	.020	.400	.689	.901	1.110
	ENGABIL	4.447E-02	.021	.124	2.100	.036	.676	1.479
	PACIFIC	-.131	.066	-.100	-1.975	.049	.928	1.078
	SEASIAN	-3.751E-02	.031	-.064	-1.214	.226	.845	1.183
	Q30_02 Filipino	-8.805E-02	.030	-.176	-2.912	.004	.646	1.547
	Q30_03 Japanese	2.121E-02	.032	.035	.669	.504	.853	1.173
	Q30_04 Korean	-1.096E-02	.035	-.016	-.317	.751	.923	1.084
	Q24 Average grade in high school	2.213E-04	.006	.002	.034	.973	.888	1.127
	FGNSCH	-7.789E-04	.013	-.003	-.061	.951	.742	1.348
3	(Constant)	.314	.171		1.833	.068		

Q29 Age on December 31 of this year	3.298E-03	.009	.021	.362	.717	.588	1.701
MEANOSS	-6.745E-05	.001	-.005	-.111	.912	.908	1.101
Q28 Your gender	1.765E-02	.022	.038	.818	.414	.887	1.127
Q33 # of children/stepchildren in household	1.455E-02	.015	.045	.951	.342	.860	1.162
ENGABIL	4.500E-03	.021	.013	.213	.832	.560	1.785
PACIFIC	-.108	.062	-.082	-1.738	.083	.869	1.151
SEASIAN	-5.383E-04	.029	-.001	-.019	.985	.797	1.254
Q30_02 Filipino	-2.485E-02	.030	-.050	-.827	.408	.542	1.844
Q30_03 Japanese	3.739E-02	.031	.062	1.212	.226	.744	1.344
Q30_04 Korean	1.484E-02	.034	.022	.442	.659	.807	1.240
Q24 Average grade in high school	-8.776E-03	.006	-.070	-1.439	.151	.831	1.203
FGNSCH	1.035E-03	.012	.005	.088	.930	.714	1.401
Q14_2 Telephone/email /student about studies	2.141E-02	.010	.122	2.165	.031	.615	1.626
ACAINTG	-1.981E-02	.014	-.082	-1.367	.173	.537	1.863
OBSTCLS	-1.382E-02	.014	-.050	-1.016	.310	.793	1.262
NORMBELF	-2.243E-02	.018	-.067	-1.236	.217	.667	1.500
BLFSCNSQ	8.300E-03	.009	.051	.937	.349	.653	1.531
ATUDGOAL	1.397E-02	.017	.048	.834	.405	.594	1.682
SUBJNORM	-1.306E-02	.009	-.086	-1.501	.134	.596	1.679
Q35 Current employment status	1.543E-03	.012	.008	.128	.898	.534	1.874
Q36 How do you think of yourself?	1.245E-03	.010	.007	.121	.903	.592	1.688
ASPIRA	1.142E-02	.013	.046	.859	.391	.675	1.481
Q37_18 I feel I belong at this college	1.989E-03	.009	.012	.228	.820	.687	1.455
SCIGPA	.112	.018	.331	6.112	.000	.664	1.505
ENGGPA	3.592E-02	.014	.140	2.539	.011	.645	1.550
INSTHILO	7.030E-03	.016	.020	.439	.661	.897	1.114

a Dependent Variable: CMPLRATO

English versus math course taking patterns. Course taking patterns of Asian Pacific American students for the Fall Semester 2001 school year are reflected in Table 9. Of the 3573 course enrollments of students being examined, 1037 (29.02%) were in language intensive classes, e.g., English, history and other similar courses. In contrast there were 693 (19.40%) course enrollments in math/sciences classes, e.g., math, chemistry and other similar courses.

A completion ratio, a grade point average for language intensive courses, and for math/science courses were calculated for all course enrollments of Asian Pacific American students. For Asian American Pacific students, the statistics were as follows:

Course Taking Outcome Statistics, Table 6

		Completion Ratio	Language Intensive GPA	Math/Science GPA
N	Valid	550	414	359
	Missing	60	196	251

Mean		1.4709	2.8123	2.7989
Std. Error of Mean		.03290	.05126	.04757
Std. Deviation		.77167	1.04300	.90140
Variance		.59547	1.08785	.81253
Skewness		3.132	-.715	-.763
Std. Error of Skewness		.104	.120	.129
Kurtosis		14.306	-.133	.398
Std. Error of Kurtosis		.208	.239	.257
Range		7.00	4.00	4.00
Minimum		1.00	.00	.00
Maximum		8.00	4.00	4.00

The means of the language intensive GPA, Math/Science intensive GPA, and Asian Pacific American ethnic designators were examined. Significant differences between groups were found as follows:

ANOVA Science GPA

		Sum of Squares	df	Mean Square	F	Sig.
Q30_01 Chinese	Between Groups	26.535	118	.225	.947	.616
Q30_02 Filipino	Between Groups	22.849	118	.194	.908	.699
Q30_03 Japanese	Between Groups	18.086	118	.153	1.283	.091
Q30_04 Korean	Between Groups	9.381	118	.079	1.432	.027
SEASIAN	Between Groups	17.724	118	.150	.928	.657
PACIFIC	Between Groups	3.641	118	.031	1.126	.261

The science grade point average was significantly different at $F = 1.432$, $p<.05$ for Koreans relative to the other ethnic groups. With respect to English GPA, the following table summarizes the results:

ANOVA English GPA

		Sum of Squares	df	Mean Square	F	Sig.
Q30_01 Chinese	Between Groups	6.410	25	.256	1.090	.354
Q30_02 Filipino	Between Groups	5.024	25	.201	1.198	.240

Q30_03 Japanese	Between Groups	4.787	25	.191	1.407	.099
Q30_04 Korean	Between Groups	2.125	25	.085	.968	.510
SEASIAN	Between Groups	4.388	25	.176	1.231	.211
PACIFIC	Between Groups	1.109	25	.044	1.755	.017

The English grade point average for Pacific islanders was significantly different from other ethnic groups with an $F = 1.755$, $p<.017$.

Discussion

What are the predictors of retention and persistence of Asian Pacific American community college students enrolled in an urban community college district and do they vary between ethnic groups? The correlation between completion ratio, GPA, English GPA and Science GPA is not unexpected given that academic course grades are a major component and that in the case of English GPA and science GPA these are subsets of the comprehensive GPA. The fact that there is a strong positive correlation was found between the completion ratio and higher English GPA and higher science GPA that completion and academic achievement irrespective of the focus is a priority among Asian Pacific Americans.

An interpretation of the moderate positive correlations found between subjective norms, i.e., "why is college important", and beliefs and consequences, i.e., "influences on the decision to come to the particular college", may be influenced by the strong parental support and encouragement placed by Asian Pacific American parents on academics and achievement. The moderate correlation between subjective norms, why college is important, and normative beliefs reasons for coming to the college selected appear to be like the correlation between normative beliefs, reasons for coming, and beliefs and consequences, influences on decision-making do not appear to be unique for Asian Pacific Americans. In that, it seems that irrespective of ethnic

group if an individual has positive aspirations, e.g., go to a four year college or get a better job, that the individual would likely identify reasons, e.g., reason for coming, for choosing a school on the belief, e.g. beliefs and consequences, that the school chosen will provide the individual the greatest likelihood to achieve the desired outcome.

The results of the hierarchical regression indicates that other than for science grade point average, English grade point average, and calling a fellow student for course information, none of the other items considered were statistically significant. Conditioning, mediating, and other items did not make significant contribution to the dependent variable completion ratio. There were not significant differences between ethnic groups in their contribution to changes in completion ratio.

An interpretation may be that while there are significant differences between ethnic groups, that with respect to completion ratio, other factors, such as socialization, obstacles, age, and children in the home are not significant. It is the focus on grade point average that is most explanatory. An explanation may be that other constraining variable, e.g., overcoming obstacles, or feeling part of the campus, are not significant to the narrow laser-like focus on academic achievement of Asian Pacific Americans. It is as if "there is only academic achievement" and that all other potentially constraining or distracting factors are not relevant.

Given the priority placed by Asian American families on education and the Asian Pacific American's view that it is through education that they will succeed both through social mobility and economic opportunity that education represents, it is no wonder that there are no other factors than academic achievement for Asian Pacific Americans.

In what types of courses are Asian Pacific Americans enrolling and are success rates, as measured by grade-point-average and course retention, equal for language intensive and math/science intensive courses? Course taking patterns of Asian Pacific American students is

still limited to a single semester. It is interesting to note that of the 3575 Asian Pacific Americans enrollments, 1037 or 29.02% were in language intensive classes, e.g., English, History and other similar courses, and 693 or 19.40% enrollment in math/sciences classes, e.g., Math, Chemistry and other similar courses. Intuitively, it would seem that there would be more enrollment in math/science in which English usage may not be as intensive, as opposed to courses that are more language intensive. Whether enrollments are attributable to personal preference, scheduling and availability of courses, required course status, and other factors was not available. Therefore, making of inferences is purely speculative.

The means of the language intensive GPA, Math/Science intensive GPA, and Asian Pacific American ethnic designators were examined. Significant differences between groups was found with respect to language intensive GPA for Pacific Islanders and Math/Science GPA for Koreans. The fact that only limited course was work reported and the nature of the course work, that is, remedial versus for transfer credit was not considered, may be significant factors in this analysis of English grade point average.

Conclusions and Policy Implications

The results of this study confirm that Asian Pacific Americans are different from other larger or more dominant ethnic groups and that there are significant differences between the various ethnic groups that comprise the Asian Pacific American group. These differences suggest that significant information about unique and identifiable ethnic groups is being lost when data is aggregated into larger more generic groupings. Such aggregation may lead to the formulation of conclusion and policies that may not be consistent with or contrary to the needs and aspiration of Asian Pacific Americans. Therefore, more research that is sensitive to maintaining the integrity of small ethnic groups is needed.

However, the reality is also that in many instances the population of Asian Pacific

Americans is very small and therefore difficult to use statistically. The results of this study while insightful in providing confirmation of differences between very minority ethnic groups are also limited with respect to generalizability given the small sample size.

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Appendixes

Table 7 – Item Descriptions (Hagedorn et al., 2002)

Category	Item Name and Cronbach's Alpha	Description	Mean, Standard Deviation, Range, Minimum, and Maximum
Conditioning	Age	How old will you be on December 31 of this year? 1 = up to 20 2 = 21-24 3 = 25-29 4 = 30-39 5 = 40-54 6 = 55+	Mean = 2.52 Std. Dev.= 1.36 Minimum = 1 Maximum-6 Range = 5
	SES	Mean of Occupational Status Score of Parents (Terrie & Nam, 1994). If student reported only one parent, that score was used.	Mean = 52.22 St. Dev. = 21.39 Minimum = 6.65 Maximum = 99 Range = 5
	Gender	Your gender: • 1 = Male • 2 = Female	Mean = 1.59 St. Dev. = .49 Minimum = .1 Maximum = 2 Range = 1
	Children	How many children/step-children are living in your household? • 1 = none • 2 = 1-2 • 3 = 3-4 • 4 = 5 or more	Mean = 1.38 Std. Dev. = .70 Minimum = 1 Maximum = 4 Range = 3
	English Ability Alpha = .94	Ability in English (1 = not al all, 2 = with difficulty, 3 = fairly well, 4 = very well • Read • Write • Understand college text book • Write an essay exam • Write a term paper • Participate in class discussions • Communicate with instructor	Mean = 2.0 St. Dev. = .65 Minimum = 1 Maximum = 2 Range = 3

Independent	High school GPA	Self reported average grade in high school? 1 = D or lower (Poor) 2 = C- (Below Average) 3 = C (Average) 4 = C+ (Above Average) 5 = B- (Good) 6 = B (Very Good) 7 = B+ (Excellent) 8 = A- (Superior Quality) 9 = A or A+ (Extraordinary)	Mean = 5.99 Std. Deviation = 1.86 Range = 8 Minimum = 1 Maximum = 9
	Foreign Schools	Where did you attend elementary, junior high school, high school and college	Mean = 1.30 Std. Deviation = .46 Range = 1 Minimum = 1 Maximum = 2
Mediating	Academic Integration Alpha = .74	How often or how many times Talk with instructor before or after class Talk with instructor during office hours Help another student understand homework Study in small groups outside class Speak with an academic counselor Telephone/email/student about studies	Mean = 5.85 Std. Deviation = .79 Range = 6 Minimum = 1 Maximum = 7
	Obstacles Alpha = .76	How large a problem (1 = not a problem to 5 = very large problem) • Parking • Transportation • Family Responsibilities • Job-related responsibilities • Paying for college • Scheduling classes for next semester • Understanding the English language • Difficulty in class	Mean = 2.15 Std. Dev. = .78 Minimum = 1 Maximum = 5 Range = 4

	Normative Beliefs Alpha = .77	Reasons for coming (1 = very unimportant to 7 = very important) • Zscore: This college has good social activities • Zscore: Offers special educational programs • Zscore: This college has a good reputation What people think about the college (1 = poor college to 7 = excellent college) • Zscore: You • Zscore: Your closest friends • Zscore: Your spouse or partner • Zscore: Your parents or guardians • Zscore: Your other relatives • Zscore: Your high school teacher	Mean = .03 Std. Deviation = .65 Minimum = -2.29 Maximum = 2.03 Range = 4
	Beliefs and consequences Alpha = .74	Influences on decision to come to the particular college (1 = very unimportant to 7 = very important) • Graduates get good jobs • Students transfer to good 4-year schools • To get a better job • To get a college degree • To enroll in a special program or certificate	Mean = 5.135 Std. Dev. = 1.39 Range = 6 Minimum = 1 Maximum = 7
	Academic Attitude Alpha = .74	1 = Strongly disagree to 7 = Strongly agree • Understanding what is taught is important • I always complete homework assignments • Success in college is largely due to effort • I can learn all skills taught in college	Mean=5.85 Std. Dev. = .79 Range = 6 Minimum = 1 Maximum = 7

		• Enjoy challenging class assignments • Expect to do well/earn good grades	
	Subjective Norm Alpha = 78	Why in college (1 = very unimportant to 7 = very important) • My parents wanted me to come • Other family members wanted me to come • HS or other counselor advised me • My friends are attending here • My employer encouraged me to enroll here	Mean = 3.22 Std. Dev. = 1.51 Range = 6 Minimum = 1 Maximum = 7
	# weekly hours employment	1 = none to 9 = 46 hours or more	Mean=2.68 Std. Dev. = 1.07 Range = 3 Minimum = 1 Maximum = 4
	Student Self Perception	How do you think of yourself? 0 = Primarily as a parent who is going to college, or Primarily as an employee who is going to college 1 = Solely as a student, or Primarily as a student who is employed	Mean=2.34 Std. Dev. = 1.25 Range = 3 Minimum = 1 Maximum = 4
	Goal Orientation Alpha = .78	1 = Strongly disagree to 7 = strongly agree • Satisfied when I work hard to achieve • I am very determined to reach my goals • Important to finish courses in program of studies • Keep trying even when frustrated by task	Mean = 6.05 Std. Dev. = .86 Range = 6 Minimum = 1 Maximum = 7
	Aspirations Alpha = .7023	As things stand, do you think you will (1 = definitely not to 5 =	Mean = 3.75 Std. Dev. = .86 Range = 4

		definitely) • Transfer to a 4-year college/ university • Get a bachelor's degree	Minimum = 1 Maximum = 5
	Feelings of belonging	I feel I belong at this college (1 = Strongly disagree to 7 = Strongly agree	Mean = 4.74 Std. Dev. = 1.53 Range = 6 Minimum = 1 Maximum = 7
	Communications with other students	How many times in the last 7 days did you telephone or email another student to ask a questions about your studies	Mean = 1.78 Std. Dev. = 1.29 Range = 5 Minimum = 1 Maximum = 6
	Science GPA	Grade point average for all math and sciences classes	Mean = 2.90 Std. Dev. = .87 Range = 4 Minimum = 0 Maximum = 4
	English GPA	Grade point average for all language intensive classes taken	Mean = 1.03 Std. Dev. = 2.83 Range = 4 Minimum = 0 Maximum = 4
	Institutions	Colleges identified by high, medium, low numbers of Asian Pacific Americans	Mean = 2.41 Std. Dev = .64 Range = 2 Minimum = 1 Maximum = 3
Dependent	Course completion	Ratio of courses completed with a C or better (or pass) divided by the number of courses enrolled (Spring 2001)	Mean = .79 Std. Dev. = .24 Range = 12 Minimum = 1 Maximum = 12

Table 8
Descriptive Statistics - Ethnicity

	Range	Minimum	Maximum	Mean	Std. Deviation
Q30_01 Chinese	1	1	2	1.32	.466
Q30_02 Filipino	1	1	2	1.28	.448
Q30_03 Japanese	1	1	2	1.16	.369
Q30_04 Korean	1	1	2	1.12	.331
Southeast Asian (Q30_05 Thai + Q30_06 Laotian + Q30_07 Cambodian + Q30_08 Vietnamese)	1	1	2	1.17	.377
Pacific Islander (Q30_19 Pacific Islander/Samoan/ Hawaiian/Guamanian + Q30_20 Other Pacific Islander)	1	1	2	1.03	.168

Table 9 - Listing of All Courses Enrollments Fall 2001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	.1	.1	.1
	A S L	2	.1	.1	.1
	A S T	5	.1	.1	.3
	ACCTG	66	1.8	1.8	2.1
	ADDICST	2	.1	.1	2.2
	ADM JUS	6	.2	.2	2.3
	AFRO AM	4	.1	.1	2.4
	AGRI	1	.0	.0	2.5
	ANATOMY	10	.3	.3	2.7
	ANTHRO	41	1.1	1.1	3.9
	ARCH	20	.6	.6	4.5
	ART	100	2.8	2.8	7.2
	ASIAN	16	.4	.4	7.7
	ASTRON	12	.3	.3	8.0
	AUTORTK	8	.2	.2	8.3
	AUTOTEK	5	.1	.1	8.4
	AVIATEK	5	.1	.1	8.5
	BIOLOGY	62	1.7	1.7	10.3
	BRDCSTG	3	.1	.1	10.4
	BSICSKL	3	.1	.1	10.4
	BUS	103	2.9	2.9	13.3
	CBNTMKG	3	.1	.1	13.4
	CH DEV	104	2.9	2.9	16.3
	CHEM	60	1.7	1.7	18.0

	CHICANO	5	.1	.1	18.1
	CHINESE	11	.3	.3	18.4
	CINEMA	16	.4	.4	18.9
	CO INFO	24	.7	.7	19.6
	CO SCI	187	5.2	5.2	24.8
	CO TECH	3	.1	.1	24.9
	CRPNTRY	4	.1	.1	25.0
	DEV COM	7	.2	.2	25.2
	DRAFT	3	.1	.1	25.3
	E S L	4	.1	.1	25.4
	E.S.L.	46	1.3	1.3	26.7
	EARTH	3	.1	.1	26.8
	ECON	89	2.5	2.5	29.2
	ECONMT	2	.1	.1	29.3
	EDUC	2	.1	.1	29.4
	EGT	1	.0	.0	29.4
	ELECTRN	6	.2	.2	29.6
	ENG GEN	5	.1	.1	29.7
	ENGLISH	564	15.8	15.8	45.5
	ENV SCI	3	.1	.1	45.6
	ESL	10	.3	.3	45.8
	FAM &CS	6	.2	.2	46.0
	FASHDSN	16	.4	.4	46.5
	FINANCE	3	.1	.1	46.5
	FRENCH	5	.1	.1	46.7
	GEOG	34	1.0	1.0	47.6
	GEOLOGY	12	.3	.3	48.0
	HEALTH	80	2.2	2.2	50.2
	HISTORY	113	3.2	3.2	53.4
	HLTHOCC	8	.2	.2	53.6
	HUMAN	29	.8	.8	54.4
	IMPORT	2	.1	.1	54.5
	INTBUS	5	.1	.1	54.6
	JAPAN	11	.3	.3	54.9
	JOURNAL	8	.2	.2	55.1
	KOREAN	1	.0	.0	55.2
	LAW	19	.5	.5	55.7
	LIB SCI	3	.1	.1	55.8
	LING	1	.0	.0	55.8
	LRNSKIL	25	.7	.7	56.5
	MARKET	9	.3	.3	56.8
	MATH -	3	.1	.1	56.8
	MATH	335	9.4	9.4	66.2
	MGMT	8	.2	.2	66.4
	MICRO	13	.4	.4	66.8
	MULTIMD	6	.2	.2	67.0

	MUSIC	72	2.0	2.0	69.0
	NURSING	6	.2	.2	69.2
	OCEANO	28	.8	.8	69.9
	OFF ADM	62	1.7	1.7	71.7
	OFF MCH	1	.0	.0	71.7
	P.E.	2	.1	.1	71.8
	PERSDEV	10	.3	.3	72.0
	PHILOS	46	1.3	1.3	73.3
	PHOTO	13	.4	.4	73.7
	PHYS ED	137	3.8	3.8	77.5
	PHYSICS	21	.6	.6	78.1
	PHYSIOL	9	.3	.3	78.4
	POL SCI	78	2.2	2.2	80.5
	PSYCH	122	3.4	3.4	84.0
	PUB REL	1	.0	.0	84.0
	REAL ES	3	.1	.1	84.1
	REF A/C	6	.2	.2	84.2
	REGNRSG	4	.1	.1	84.4
	SOC	63	1.8	1.8	86.1
	SPANISH	29	.8	.8	86.9
	SPEECH	81	2.3	2.3	89.2
	STAT	7	.2	.2	89.4
	T V	2	.1	.1	89.4
	TAILRNG	1	.0	.0	89.5
	THEATER	19	.5	.5	90.0
	TRANS	3	.1	.1	90.1
	TUTOR	329	9.2	9.2	99.3
	VOC ED	25	.7	.7	100.0
	Total	3573	100.0	100.0	

Table 10 Language Intensive Course Enrollments Fall 2001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	E S L	4	.4	.4	.4
	E.S.L.	46	4.4	4.4	4.8
	ENGLISH	564	54.4	54.4	59.2
	ESL	10	1.0	1.0	60.2
	HISTORY	113	10.9	10.9	71.1
	LAW	19	1.8	1.8	72.9
	POL SCI	78	7.5	7.5	80.4
	PSYCH	122	11.8	11.8	92.2
	SPEECH	81	7.8	7.8	100.0
	Total	1037	100.0	100.0	

Table 11 Math/Science Course Enrollments Fall 2001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ANATOMY	10	1.4	1.4	1.4
	BIOLOGY	62	8.9	8.9	10.4
	CHEM	60	8.7	8.7	19.0
	CO SCI	187	27.0	27.0	46.0
	EARTH	3	.4	.4	46.5
	ENV SCI	3	.4	.4	46.9
	GEOLOGY	12	1.7	1.7	48.6
	MATH	335	48.3	48.3	97.0
	PHYSICS	21	3.0	3.0	100.0
	Total	693	100.0	100.0	

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