

**The Virtues of Giving CSUN's Entering Freshmen an Early Start:
Initial Findings from the Campus's Summer 2012 and Summer 2013 Experiences**

by

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After almost two years of preparation, the CSU formally launched its mandatory Early Start Program in Summer 2012. It came into being thanks to Executive Order 1048, which outlined general Program parameters in response to action by the CSU Board of Trustees in May 2010 mandating its introduction. The Program’s aim is to facilitate graduation by requiring that incoming freshmen begin fulfilling any remaining entry-level proficiency requirements in mathematics or English in the summer before their formal Fall-term matriculation. All incoming freshmen needing remediation in mathematics at the time of their initial CSUN entry are required to participate in Early Start activities. During the 2012-14 academic years, students whose EPT (English Placement Test) scores put them “at risk” are also mandated to participate in Early Start activities.¹ Although the Executive Order specified that incoming freshmen who fail to participate in a required Early Start activities be blocked from registering for the Fall term, this consequence was not fully implemented during the Program’s first years.

The following pages examine the initial experiences of the first two cohorts of first time freshmen subject to the Early Start requirements at Cal State Northridge. Given the timing of this report, most of it deals with the experiences of the Fall 2012 entrants. After a brief overview of the various summer programs offered during Summer 2012 or Summer 2013, and some discussion of their overlapping content, the following pages summarize differences in the background and college preparation of the Fall 2012 freshmen participating in the four major summer paths identified. Differences in these groups’ Fall- and Spring-term coursework in writing and mathematics are also examined, as are several year-end performance measures (e.g., cumulative units earned, GE requirements completed, year-end CSUN GPA, and persistence). Thereafter, these performance measures are compared to those of the immediate predecessors of the Fall 2012 entrants: the first-time freshmen entering CSUN in Fall 2011. Finally, the

¹ “At-risk” students are those earning EPT scores in the lowest quartile of test-takers (i.e., scores of 137 or lower).

summer experiences of the Fall 2013 freshman entrants are summarized, along with their Fall-term enrollment patterns in remedial or GE composition and mathematics courses.

There are several reasons why the CSUN experiences described here may provide a good test case for the systemwide program. First, the Northridge campus admits large numbers of first time freshmen each year: between 4,000 and 6,000 during the last few years. Second, thanks to the University's commitment to insuring access, these large freshmen classes are quite diverse. As a result, large numbers of incoming freshmen were required to participate in Early Start during Summer 2012 or Summer 2013 (49%-52% or approximately 2,100-3,000 students). Unfortunately, a fair number ignored the repeated e-mail communications they received encouraging/ directing them to participate (n=398-684). Since such students were allowed to enroll in Fall 2012 or Fall 2013 nonetheless, they provide an ideal reference group against which to evaluate the initial performance of the Early Start participants. And, finally, CSUN is one of the campuses that has adopted the "Stretch" approach to teaching freshman composition,² which means that the experience of students at Northridge may provide an early indication of how much a brief, but intense, set of writing exercises completed during the summer before entry benefits the composition-related coursework undertaken during the subsequent academic year.

CSUN's Summer 2012 Programs for Entering Freshmen

During its first year of operation, CSUN's Early Start Program provided multiple options for incoming freshmen to choose from, as is evident from the left-hand side of Table 1. One in ten of the incoming Fall 2012 freshmen fulfilled the new requirement by participating in one of several well-established EOP summer programs. Another third opted for one of the online Early Start options, with close to two-thirds of them focusing exclusively on developmental work in mathematics. Finally, a very

² The "Stretch" approach, pioneered at San Francisco State, replaces remedial coursework in writing with multiple means of completing the GE composition sequence required of all incoming freshmen. At CSUN, there are three options: a two-semester sequence, plus supplemental instruction; a two-semester sequence; and a one-semester course designed for students who are proficient in English at entry. CSUN students are assigned to these sections on the basis of their EPT scores, but some campuses allow their incoming freshmen to select the option most appropriate for them.

small number participated in the intensive Strong Start program developed at CSUN in the mid-2000s.

Each of the available options is described in a little more detail below.

On-campus Summer Bridge Programs: this six week EOP program, which has a residential and commuter variant, is designed to provide academically at-risk students with an intensive pre-college experience just prior to beginning their first semester at CSUN. Students participate in an on-campus course introducing them to college work (University 100), along with the most appropriate Stretch writing and/or developmental mathematics course. Students remain enrolled in these same courses during their first Fall term, though, on the recommendation of their instructors, some shift into a more advanced math course at the beginning of the new term. In addition, students receive individualized advising during the summer and following academic year.

The *EOP FreshStart Program* serves incoming freshmen unable to participate in the Summer Bridge programs. This transitional program is designed to familiarize students with various features of the CSUN community, including the campus resources that may facilitate their academic success. Its aim is to give at-risk students a head start in building the network of supportive friends and EOP staff that will foster their college learning. Like other EOP students, the FreshStart freshmen also receive individualized advising throughout the academic year.

One aspect of FreshStart is CHAMPS, a self-paced online program designed to assist students in completing or reducing their need for developmental work in mathematics. Students are assigned to either a pre-algebra and elementary algebra variant, based on their scores on the Entry Level Mathematics test (ELM).³ With the aid of Aleks software, developed at UC Irvine, students in both variants undertake a set of exercises designed to strengthen their skills. These proceed in two phases. First, students complete an initial skills assessment that identifies their strengths and challenges. Thereafter, they undertake a set of exercises designed to address their unique needs. Their progress is monitored by an instructor and a tutor, both of whom students can work with on campus.

Strong Start Program: participating students earn 3 units of GE credit by successfully completing University 100, *The Freshman Seminar*, and enroll in one of the two three-unit developmental mathematics courses offered at CSUN (pre-algebra or elementary algebra). During the six-week on-campus summer session, students also have the opportunity to make new friends and learn about the physical layout of the campus.

Early Start Mathematics Program: students choosing this online one-credit option complete at least 12 hours of independent work using the Aleks approach (see above for a fuller description). If they make sufficient progress in the variant to which they have been assigned,⁴ they are invited to campus for tutoring. In addition, once the Aleks work is completed, all students have the opportunity to complete a

³ Students who score below 34 take the pre-algebra variant (092), while students who score between 34 and 48 on the ELM take the elementary algebra variant (093). Students with higher ELM scores are deemed ready for the GE mathematics course.

⁴ Students who score below 34 on the ELM take the pre-algebra variant (096L I), while students who score between 34 and 48 take the elementary algebra variant (096L II).

proctored online assessment. Those who score 80% or better are deemed to have completed one semester's worth of developmental work.⁵

Early Start English Program: this writer's workshop is designed to strengthen students' writing abilities through intensive practice in basic writing skills, including grammar, usage, and other aspects of the composing process. Thus far, this course was offered online as a one-unit, two-week workshop with additional on-campus and online tutoring available through the Learning Resource Center. The courses themselves were staffed by instructors from several departments (i.e., Pan African Studies, Central American Studies, Asian American Studies, and English).

The Character of the Summer Work Completed by the Fall 2012 Freshman Entrants

Table 2 summarizes the differing experiences of the four groups of Fall 2012 freshmen who undertook some summer work. As the first section of the table indicates, none of the Early Start or Fresh Start participants attempted University 100. In contrast, this introduction to college work was required of all students participating in the on-campus Summer Bridge and Strong Start programs. The Strong Start students also attempted a three-unit face-to-face remedial course in mathematics, but completed no preparatory work for their Fall-term Stretch English courses. Three-fifths of the Summer Bridge students undertook such work, however, with a third doing substantial remedial work in mathematics.⁶ Like the Strong Start students, most of the Early Start participants undertook remedial work in math, though it was considerably less intensive. Close to two-fifths also undertook preparatory work for their Fall-term Stretch composition courses.

A little over one in ten of the students participating in various summer programs (13%) was able to reduce their remedial requirements by the end of the summer. All reductions were in mathematics rather than in English, thanks to the differing structure of the summer programs in the two subjects. The last section of Table 2 indicates that almost two-thirds of the Strong Start students (19 out of 29) cut their required remedial work in mathematics in half, with another four becoming fully proficient. Although the

⁵ Students enrolled in the pre-algebra variant then move on to the algebra variant in the Fall (093), while those enrolled in the algebra variant during the summer are deemed ready to enroll in one of the GE math courses offered at CSUN.

⁶ As shall become clear later in this report, the proportion of Summer Bridge students doing intensive summer work in mathematics may be lower than it should be.

proportion of students in other summer programs able to reduce, if not eliminate, their remedial requirements was much smaller, the numbers involved are larger. Thus, 44 Summer Bridge students were able to reduce or complete their remedial requirements in math, as were 25 of the Fresh Start students. Finally, 132 Early Start students (10%) reduced their remedial requirements in time for their Fall entry, with half becoming fully proficient.

Given the similarity of the Summer Bridge and Strong Start Programs, the students participating in either are considered together in subsequent discussion of the Fall 2012 entrants. Although the Early Start students are also considered as a single group in some instances in subsequent tables, they are subdivided during discussion of their Fall- and Spring-term coursework, when it is important to distinguish between those doing summer work in English or mathematics and those undertaking work in the other subject. Further, given the fact that the summer experience of the EOP Fresh Start students, which relied on use of the Aleks software, was much like that of the Early Start students completing remedial work in mathematics, the former are combined with the relevant Early Start grouping in subsequent tables and discussion.⁷ The two resulting groupings are consistently compared with two others: the freshman entrants who were exempt from all summer work, primarily because they were deemed adequately prepared for college work, and students who did not participate in Early Start, though they should have.⁸ For the sake of simplicity, these last are referred to as the “Should Haves” in the remaining text.

The Background and Preparation of the Fall 2012 Freshman Entrants

Before turning to the Fall 2012 entrants' Fall and Spring term coursework in writing and mathematics, it is important to understand the differences in the entry characteristics of the four major groupings identified above. Thus, Table 3 summarizes the background of the incoming freshmen

⁷ These combinations undoubtedly obscure the distinct features of both the Fresh Start and Strong Start experiences, but given the relatively small numbers of students involved, the loss of detail is hopefully outweighed by the gain in clarity.

⁸ The Exempt group also includes a small number of students excused from summer work for other reasons (e.g., late registrants, disabled students, international students).

belonging to the four groupings considered, while Tables 4 and 5 summarize aspects of their high school preparation.

By and large, the students who were exempt from the new Early Start requirements differ most clearly from the three other subgroups shown, among whom the Summer Bridge students are usually distinctive. As Table 3 indicates, almost all of the latter are Pell Grant recipients and belong to traditionally underserved racial and ethnic groups, with three-fifths stemming from Latina/o backgrounds. In contrast, fewer than half of the Exempt students belong to traditionally underserved groups or are Pell grant recipients. The majority are also men, contrasting again with the other subgroups shown. Among the latter, however, men are least well represented among the Early Start students, two-thirds of whom are women. In other respects, both the Should Haves and the Early Start students tend to resemble the Summer Bridge students: approximately three-fifths to two-thirds stem from Latina/o backgrounds or receive Pell grants.

As one would expect, the Exempt students are well-prepared for college work. The first section of Table 4 indicates that approximately half had high school GPAs of 3.26 or higher, while almost two-thirds had composite scores of 1000 or higher on the SAT. In addition, as the other two sections of the table indicate, close to three-fifths were exempt from taking either the EPT or the ELM, thanks to their high SAT scores. Only one-tenth need remediation in mathematics at college entry, while just over a third will have to take a yearlong Stretch composition course.⁹

Not unexpectedly, the Summer Bridge students display a sharply different set of entry characteristics. Just over seven-tenths have high school GPAs of 3.0 or lower, with only 16% having a GPA that exceeds 3.25. Similarly, almost none have composite SAT scores that exceed 1000, with a median score of 770.

⁹ The small group of Exempt students needing remediation in math are those who were exempt from summer work for reasons other than proficiency at entry (e.g., late applicants, international students). In addition, the proportion of Exempt students who need a yearlong Stretch composition course is relatively large because only students scoring in the lowest quartile on the EPT were subject to the Early Start requirement in Summer 2012.

Thus, almost all were required to complete the EPT and ELM tests, with three-fifths to three-quarters scoring in the lowest groupings shown in Table 4 (i.e., scores low enough to require two semesters of remedial work in mathematics and the most intensive yearlong Stretch writing course). Given the unusually high proportion of Summer Bridge students needing substantial remediation in mathematics as a result (60% vs. 41% of the Early Start students), it is surprising that only a third undertook intensive work in the subject in the summer before their formal Fall entry (see Table 2).

Both the Should Haves and the Early Start participants fall midway between these two extremes. Table 4 indicates that close to half had high school GPAs of 3.0 or lower, while approximately three-tenths had GPAs of 3.26 or higher. Very few had composite SAT scores exceeding 1000, with an average score of 840. Thus, the vast majority took the EPT and ELM tests, with just over half scoring well enough to need only one remedial course in mathematics. The majority, however are subject to taking the most intensive Stretch writing course, thanks to their EPT scores.

In sum, the Should Haves differ from the Early Start participants in very few respects, with only two of the differences between them statistically significant, as is evident from the statistics at the bottom of Tables 3 and 4. The greatest difference is in Pell Grant status, with the Early Start students more likely than the Should Haves to have such Grants (69% vs. 60%). The former are also somewhat more likely than the latter to have high school GPAs of at least 3.0 (56% vs. 49%). Both sets of students have similar composite SAT scores and are equally unlikely to be fully prepared for college work in English and mathematics at summer entry.

Given the similarity in the backgrounds and entry-level preparation of the Should Haves and the Early Start participants, it seems reasonable to conclude that differences in achievement emerging among them during their first college year are likely to be attributable to the most substantial difference between them: participation in the Early Start Program. Nonetheless, given their evident gaps in preparation, along with those of the Summer Bridge participants, it would be surprising indeed if freshmen in any of these

three groups performed as well at CSUN as the Exempt students. Further, any gains that they achieved would redound disproportionately to CSUN's low income and traditionally underserved students, thanks to their concentration among the Fall 2012 freshmen subject to the Early Start requirements.

In the light of the differences in preparation just outlined, it should not be surprising that students who were exempt from Early Start participation at the beginning of the summer remained the best prepared for college work at the end of that term. This is evident from Table 5. Although the Early Start and Summer Bridge participants have become somewhat better prepared in mathematics by the end of the summer than the Should Haves, at least four-fifths still needed remediation at the beginning of the Fall 2012 term. Nonetheless, the figures shown in the second section of Table 5 represent a drop of 5%-6% over the proportions needing remediation in mathematics at the beginning of the summer. As a result, the insignificant differences in the entry-level proficiency of the Should Haves and Early Start students at the beginning of the summer had become statistically significant by the end, an early harbinger of the Early Start Program's benefits.

Units Attempted by the Fall 2012 Freshmen During Their First College Year

Tables 6 and 7 summarize the number of units attempted by the Fall 2012 freshmen during their first year at CSUN, with the numbers of Remedial and Other units attempted shown separately. In evaluating the figures, it is important to bear in mind that at Northridge differences in the amount of remedial work students undertake reflect the degree to which students are attempting coursework in mathematics, because the Stretch approach completely abolishes the notion of remedial work in composition.

Table 6 indicates that only one in ten of the Exempt students attempted remedial units during Fall 2012, while a similar proportion attempted as few as 11 non-remedial units. Among the Should Haves and Early Start students, in contrast, approximately half attempted five or more remedial units in Fall 2012 and close to four in five attempted 7-11 Other units. Surprisingly, the Summer Bridge students differ from the Early Start students. Although close to half of them attempted five remedial units during

the Fall 2012 term, most attempted 12 or more Other units. When remedial and other units are combined (see third section of Table 6), Fall-term unit loads become more similar, with seven-tenths of all freshmen attempting 12-14 units. The only exception is the Summer Bridge students, most of whom appear to be attempting at least 15 units. This may be an anomaly, however, since these students do not receive credit for some of their summer work until the following Fall term.

And, indeed, in the Spring term, the unit loads of the Summer Bridge and Early Start students are quite similar. As Table 7 shows, close to half of the students in both groups are attempting remedial units, as are the majority of the Should Haves. Similarly, approximately 85%-90% of the students in all three groups are attempting 7-14 Other units. The Exempt students are once again distinct: almost none attempted remedial units in Spring 2013 and nine in ten were attempting at least 12 Other units. By and large, these differences disappear when the two types of units are combined, as the third section of Table 7 indicates. The median unit load for the Spring 2013 term is identical across the board and close to seven-tenths of the students in any given subgroup are attempting 12-14 units. The Exempt students are somewhat more likely than others to be attempting as many as 15 units, but the difference is not substantively meaningful, though it remains statistically significant.

Comparing unit loads during the two terms reveals that the Fall 2012 freshmen entrants attempted fewer units, on average, during the Spring term than they had during the Fall term. Most of the drop is confined to the students participating in summer programs, in part because the unit loads of the Exempt students remained relatively stable across the two terms. Among the Early Start students, there is a significant drop in the proportion attempting remedial units, accompanied by a more modest gain in the proportion attempting 12-14 Other units. The Summer Bridge students display a similar pattern, but, for them, it represents a significant drop in average unit load.

Composition Courses Attempted and Completed During The First College Year

During Fall 2012, the vast majority of incoming freshmen, regardless of their summer activities, attempted a Stretch composition course.¹⁰ The only partial exception is the Exempt grouping, in which 14% did not enroll in a Stretch course. Not surprisingly, the Stretch courses attempted differed by summer experience, as is evident from Table 8. Virtually all of the Early Start participants doing summer work in writing enrolled in 113A courses, as did four-fifths of the Summer Bridge students and just over half of the Should Haves. In contrast, most of the Early Start students whose summer work focused exclusively on math enrolled in 114A or the one-semester 115 course, while half of the Exempt students enrolled in the second.

By and large, students performed well in their Fall term Stretch writing courses, regardless of their summer activities. Table 9 indicates that at least four in five received passing grades and at least three-fifths earned A or B grades. Some statistically significant differences are evident in the proportion of A-B grades earned, but are too small to be meaningful in the case of the grades for all courses attempted. Modest differences are evident among the 113A students, with the students participating in any summer program most likely to earn A or B grades (74%-84% vs. 59%-65%) and least likely to earn D, F, or U grades (6-9% vs. 17-20%).

The Stretch course pattern for the Spring 2013 term differs from that for the Fall in several respects. First, as Table 10 indicates, many fewer freshmen are enrolled in composition courses. This is particularly evident for the Exempt students, close to two-thirds of whom are not enrolled. Since close to half completed their GE writing course in the Fall (47%), this is not entirely surprising. Still, close to one

¹⁰ The Stretch Writing Program at CSUN provides three options for incoming freshmen: a two-semester sequence with supplementary instruction (113A and B), a two-semester sequence (114A and B), and a one-semester course for students who are proficient at entry. Students' SAT/EPT scores determine the option they attempt. All units earned count towards graduation.

in ten of the Exempt students should have enrolled in a Stretch course, but did not.¹¹ Among the students enrolled in Stretch courses, most of the Summer Bridge and Early Start-Writing students attempted the second semester of the 113 sequence, as did almost 44% of the Should Haves. A fair number of these last also enrolled in 114B classes, as did more than a third of the Early Start-Math students.

The students enrolled in the 113A or 114A courses offered in the Spring, most of whom are repeaters, did not perform very well, but they are few in number. The students enrolled in the second semester of the two-course sequences, in contrast, again performed well. As Table 11 reveals, at least nine-tenths passed their courses and three-fifths or more earned A or B grades. Differences in performance by summer experience are minimal, with any differences in the percentage of A-B grades attributable to the relatively poor performance of the Should Haves.

In short, the freshmen participating in either the Early Start or Summer Bridge summer programs performed as well as, if not better than, the comparable students who were also enrolled in Stretch composition courses but exempt from summer work. As preceding discussion has indicated, the similarity in performance was evident in both the Fall and Spring terms. Given the deficits with which the students participating in summer programs entered, their performance is noteworthy.

GE and Remedial Mathematics Courses Attempted and Completed During The First College Year

The patterns of enrollment in the introductory mathematics courses attempted by the Fall 2012 freshman entrants are much like those observed for the Stretch composition courses just reviewed. Once again, the Exempt freshmen were least likely to be enrolled in a math course during Fall 2012; fully one quarter took no such course, as is evident from Table 12. Of the remaining Exempt students, more than four in five enrolled in a GE math course. A similar pattern is evident for the Early Start participants whose summer work was confined to writing: the majority enrolled in a GE course, while close to one-

¹¹ Among the Early Start students focusing exclusively on math during the summer preceding entry, an unusually large proportion (8%) also failed to enroll in a needed Stretch course in Spring 2013.

fifth failed to enroll in any math course. Among the remaining summer program participants (i.e., Summer Bridge and Early Start-Math), in contrast, at least four-fifths enrolled in a remedial math course, as did the vast majority of the Should Haves.¹²

The first section of Table 13 indicates that approximately seven-tenths of the freshmen enrolled in a remedial math course in Fall 2012 earned credit for it, with the Should Haves somewhat less likely to do so than the Early Start or Summer Bridge students (61% vs. 69%-73%). Although the differences are statistically significant, they are not of much substantive significance. The same is true of performance in the GE math courses, in large part because 87% of the Fall 2012 freshmen enrolled in these classes were exempt from summer work. Four-fifths of them passed the courses they attempted and half earned A or B grades.

Once again, as is evident from Table 14, many fewer of the Fall 2012 freshmen enrolled in remedial or GE math courses in Spring 2013 than had done so in the preceding Fall term, with the majority of the Exempt and Early Start-Writing students most likely to behave in this manner. Again, this is hardly a surprise, since half of the former completed their GE math requirement in the Fall, as did 44% of the latter. Of the few who did enroll in a math course, the vast majority attempted a GE course. Among the Summer Bridge and Early Start-Math students, in contrast, half continued with their remedial work, as did a similar proportion of the Should Haves. In all three groups, a substantial majority enrolled in Math 093. Finally, close to a fifth of the Should Haves and Early Start-Math students attempted GE math courses, as did one-tenth of the Summer Bridge students. Within these three groups, a disproportionate number of students failed to attempt any math course (15%-22% vs. 6% of the Exempt students), even though their GE requirement was still unfulfilled. Presumably these are the students for whom mathematics remains a challenge that the Early Start program did not fully address.

¹² Although nine in ten of the Summer Bridge students enrolled in a math course during the Fall 2012 term, one in ten did not compared to only 3% of the Early Start students doing summer work in mathematics. Given the fact that so many of the Summer Bridge students needed remediation in the subject, the observed difference is unexpected.

Of the three groups of students enrolled in Spring-term remedial courses in significant numbers (i.e., Early Start-Math, Summer Bridge, and Should Haves), the proportion earning credit for the courses attempted is lower in Spring 2013 than it was in Fall 2012 (41%-58% vs. 61%-73%). Among the Spring-term students considered in Table 15, the Early Start-Math students are somewhat more likely to have earned credit than either the Summer Bridge or Should Have students (58% vs. 41%-46%). Similarly modest differences are evident among the freshmen attempting GE math courses in Spring 2013, four-fifths of whom are Exempt or Early Start-Math students. Although the Early Start students are somewhat less likely than the Exempt to have earned A or B grades, the overall pass rate of the two groups is similar.

In short, the findings just reviewed suggest that the students participating in summer work differ from the Exempt students in one major respect: they were more likely to be enrolled in remedial math courses during their first year at CSUN, something that is true by definition. The Early Start-Math students among them performed well in their remedial courses, however, and those able to advance to GE courses in the Spring performed on a par with the Exempt students. Further, the Early Start-Math students outperformed the Should Haves in both semesters. Although the Summer Bridge students performed on a par with the Early Start-Math students in the Fall, their Spring-term grades lagged somewhat.

First-Year Performance Measures

In addition to initial coursework in writing and mathematics, several measures of year-end performance could be examined for the four groups of Fall 2012 freshman entrants who had different experiences during the summer before their formal Fall-term entry. These include cumulative units earned, requirements completed, year-end CSUN GPA, and persistence into the second college year. They are examined in turn in the following pages.

Units Earned

Tables 16-18 summarize the units earned by the Fall 2012 freshman entrants during their initial year at CSUN. The first section of Table 16 indicates that, when it comes to the number of remedial units earned in Fall 2012, the Exempt freshmen differ from the others in that almost none earned such units. Differences in the numbers of remedial units earned by the students subject to the Early Start requirements are minimal: close to three-fifths earned such units. When it comes to the Other units earned during Fall 2012, the Summer Bridge and Exempt students are considerably more likely than the Should Haves or Early Start participants to have earned 12 or more units (70%-73% vs. 8%-14%). Most of the Early Start participants earned 7-11 Other units, according to the second section of Table 16. When the two types of units are added together, the Summer Bridge students earned the most units, on average, during Fall 2012 and the Should Haves the fewest, with the students in the other two subgroups falling midway in between.¹³

The first section of Table 17 indicates that differences in the number of remedial units earned during Spring 2013 are more modest than was the case for the Fall. Relatively few students earned such units, though students subject to the Early Start requirement were, once again, more likely to do so than the Exempt freshmen (22%-28% vs. 3%). In the case of Other units earned, the Summer Bridge students are no longer distinct (see second section of Table 17). They, like the Should Haves and Early Start participants, are less likely than the Exempt students to have earned 12 or more non-remedial units during Spring 2013 (35%-43% vs. 79%). Given these differing patterns of unit accumulation, differences in the total number of units earned in Spring 2013 are modest (see third section of Table 17). Nonetheless, the Exempt students are most likely to have earned at least 12 units overall, with four-fifths doing so. In

¹³ The high unit counts of the Summer Bridge students are, again, misleading because most of the work for some of the units earned by these students was completed in the summer preceding entry.

addition, the Early Start students are somewhat more likely than the Should Haves or Summer Bridge students to have earned 12 or more units (66% vs. 51%-56%).

Table 18 presents two cumulative measures of the number of units earned by the Fall 2012 freshmen during their first year at CSUN. The first half of the table shows the total number of remedial units earned and indicates that the Exempt students are distinct: as is to be expected, very few earned any remedial units at all. The majority of students in the other three subgroups earned at least some remedial units during the 2012-13 academic year, with the Early Start students somewhat more likely than the Should Haves or Summer Bridge students to have earned at least five such units (60% vs. 48%-51%).

The second section of Table 18 shows the cumulative non-remedial units that the Fall 2012 freshmen earned during their first year at CSUN, along with those that they brought with them at entry (e.g., transfer units and AP units). These, then, are the units that count towards graduation. The table indicates that just over three-fifths of the Fall 2012 freshmen earned 24 or more such units during the 2012-13 academic year. Just over a third of the Should Haves earned 17 or fewer units, a proportion that is considerably higher than is evident for the other subgroups (34% vs. 13%-18%). Only two-fifths of the Should Haves earned as many as 24 units, compared to seven-tenths of the Exempt students. The comparable percentages for the Early Start and Summer Bridge students are 59% and 63%, respectively, thereby making their unit accumulation relatively similar to that of the Exempt students.

Requirements Completed

The first three sections of Table 19 show the proportion of freshmen completing several requirements during the 2012-13 academic year. The top section of the table shows that at least three-fifths of the students required to do remedial work in mathematics had completed such coursework by year end. Differences in the subgroup completion rates are modest, though the Should Haves are less likely to have completed their remedial work than the Early Start or Summer Bridge students (60% vs. 74%-75%).

Given the large numbers of incoming freshmen needing remediation in mathematics at entry, it should come as no surprise that the majority had not completed their GE math requirement by the end of their first academic year. And almost three-quarters of those who have completed the requirement belong to the Exempt subgroup, very few of whom needed remediation at entry. According to the second section of Table 19, close to two-thirds of these Exempt students (65%) had successfully completed a math course fulfilling the GE requirement by the end of the Spring term, compared to 17%-23% of the students in the three subgroups subject to the Early Start requirements.

In contrast to the relatively low GE math completion rates, four-fifths of the Fall 2012 freshmen had completed their GE Stretch composition courses by the end of the Spring 2013 term (see third section of Table 19). Moreover, there are no meaningful subgroup differences in the percentages completing this requirement, though the Should Haves are somewhat less likely to have completed it than the Early Start or Summer Bridge students (75% vs. 84%-87%). Surprisingly, the latter are somewhat more likely to have completed the requirement than the Exempt students, 78% of whom have done so.

The striking differences in the overall completion rates for the GE requirements in writing and mathematics can be attributed, at least in part, to differences in the structure of the two programs. The mathematics program at CSUN, like those on other campuses, adheres to the traditional ladder approach, with remedial work preceding the more advanced GE coursework. The Stretch approach, in contrast, abolishes the notion of remedial work and relies on an integrated set of activities, often across two terms, to provide coursework suited to the particular needs of several different types of students. In addition to this difference in approach, it is likely that most CSUN freshmen find it less challenging to enhance their writing proficiency than to strengthen their quantitative skills.

Year-End CSUN GPA

The fourth section of Table 19 summarizes students' cumulative CSUN GPAs at the end of the Spring 2013 term. On average, the Fall 2012 freshmen ended the year with a cumulative GPA of 2.85,

with 43% earning a GPA of 3.0 or higher. Subgroup differences are modest. Although the Exempt students tend to perform best, the Summer Bridge and Early Start students do not lag them by much: the median GPAs are 2.8 for the latter and 3.0 for the former. The Should Haves, in contrast, have a significantly lower average GPA (2.45), in large part because approximately one-third have cumulative GPAs below 2.0. As is clear from the second-to-last section of Table 19, close to two-fifths of these students, therefore, are on probation, if not disqualified, at the end of the Spring 2013 term. In contrast, the percentage of Early Start students in good standing is the same as the percentage for the Exempt students, with the Summer Bridge students outstripping both by a small amount (81%-82% vs. 84%).

Persistence: One-Year Continuation Rates

As is evident from the last section of Table 19, approximately 78% of the Fall 2012 freshman entrants returned to CSUN for a second year of study, with significant differences in persistence among the various summer experience groups. Not unexpectedly, the Exempt students were most likely to persist, with 84% returning for a second year of study. Just over three-quarters of the Early Start participants also returned, compared to a little less than three-fifths of the Should Haves. This substantial difference in persistence rates, coupled with the Should Haves lagging CSUN GPAs, are clear indicators that entering freshmen participating in the Early Start Program derived considerable academic benefit from doing so. Although the one-year continuation rate of another beneficiary, the Summer Bridge students, exceeds that of the Should Haves by a fair amount (70% vs. 58%), it lags that of the Early Start students by 6%. This is surprising, given these students' relatively strong performance throughout their first year and the high proportion in good standing at the end of the Spring term.

The Appropriate Context for Assessing the First Year Performance of Early Start Participants

The year-end findings summarized in Tables 18 and 19 indicate that the Early Start students, in particular, consistently lag the Exempt students in terms of cumulative units earned and CSUN GPA, but only by modest amounts. The comparisons shown are misleading, however, because they fail to take into

account the significant differences in preparation outlined at the beginning of this report. Thus, in an effort to locate the year-end findings in an appropriate context, I undertook several multivariate regression analyses designed to assess the influence of pre-entry summer work on several key indicators of year-end performance, while holding differences in background and preparation constant. The results of the analyses are summarized in the appendix to this report.

Although the explanatory ability of the final regression model for cumulative units earned is modest, the lion's share of the variance explained is attributable to students' experience during the summer prior to their formal Fall-term entry.¹⁴ More modest additional effects are evident for high school GPA and two of the background factors considered (gender and racial and ethnic background). The combined effect of summer experience and high school GPA, which serves to control for differences in entry-level preparation for college work, is summarized in Figure 1. It contains several lines, each of which depicts the relationship between high school GPA and cumulative units earned at CSUN by students in specific summer program subgroups. In all cases, the slope of the smoothed lines shown is upward or positive, indicating, not unexpectedly, that the number of units earned increases along with high school GPA.

The height of the lines in the figure summarize the achievement of students with varying pre-entry summer experiences. Thus, the red line shown in Figure 1a indicates that, across all levels of high school GPA, the Should Haves consistently accumulated the smallest number of units during their first year at CSUN. The other two lines shown describe the average number of units earned by Early Start students (shown in green) or Summer Bridge students (shown in blue) with differing high school GPAs. The gaps between the lines in the chart indicate that the Early Start students consistently earned more units, on average, than the Should Haves, but lag the Summer Bridge students.

Using the Should Haves as the point of comparison, does not set the bar very high, of course. Thus, an orange dotted line has been added to Figure 1b, which shows the average number of units earned by

¹⁴ The measure of cumulative units earned used in the regression analyses and in Figure 1 excludes remedial units.

the Exempt students entering with differing high school GPAs. Although the Summer Bridge students clearly outpace them in units earned, especially at the lower reaches of the GPA scale, the Early Start students come close to matching the Exempt students in units earned. This is an impressive achievement, given that so few of the Exempt students had to complete remedial work in mathematics at entry.

To some degree, the truly superior performance of the Summer Bridge students in average number of units earned, which was also apparent in Table 18, can be attributed to the multiple units most of them accumulated in the summer prior to their formal CSUN entry. But, undoubtedly, the many support services provided by the EOP program throughout the year assist the Summer Bridge students in successfully accumulating earned units.

As was the case for cumulative units earned, both summer experience and high school GPA proved to be important components of the final regression model for students' CSUN GPA at the end of their first two semesters at the university. In this case, however, high school GPA accounted for the lion's share of the variance explained, with summer experience and the two background factors having the more modest effects. The combined effects of high school GPA and summer experience on CSUN GPA are summarized graphically in Figures 2 and 3, which have the same format as Figure 1. Once again, the red line shown in Figure 2a describes the performance of the Should Haves, who consistently have the lowest average CSUN GPAs at the end of their first year at CSUN. The other two lines shown again refer to the Early Start students (shown in green) and the Summer Bridge students (shown in blue). In both cases, the average CSUN GPAs of the students in these two groups outpace those of the Should Haves with the Summer Bridge students making the strongest gains among students entering with lower high school GPAs. They begin to fall behind the Early Start students at high school GPAs of around 3.4, but since only 8% of the Summer Bridge students enter with such high GPAs, this is not of much relevance.

An orange dotted line has, once again, been added to Figure 2b to depict the average CSUN GPAs earned by the Exempt students entering with differing high school GPAs. Although the students

participating in summer programs lag them at the upper reaches of the high school GPA distribution, they more than hold their own at the lower ends of the continuum. The balance shifts in favor of the Exempt students at around 3.0 for the Early Start students and at around 3.4 for the Summer Bridge students. But only 56% of the former and 28% of the latter enter with high school GPAs as high as 3.0 compared to two-thirds of the Exempt students.

The two variants of Figure 3 recapitulate the patterns observed for Figure 2, though the differences in performance shown are more dramatic. Rather than dealing with average CSUN GPAs, the new figure focuses on the percentage of students ending the Spring 2013 term in good academic standing, a measure that, for freshmen, is largely dependent on their initial CSUN GPAs. Once again, the Early Start and Summer Bridge students clearly outstrip the Should Haves, this time in their ability to end their first college year in good standing. And, once high school GPA is taken into account, both of the former more than hold their own against the Exempt students added to Figure 3b. The Summer Bridge students begin to fall behind the Exempt students at the highest reaches of the high school GPA distribution, but, as noted above, virtually none enter with such high GPAs.¹⁵ In short, once students' entry-level skills are taken into account, those participating in one of the summer programs offered during Summer 2012 clearly performed better during their first year at CSUN than similarly qualified students who declined to participate.

In addition to the two year-end achievement indicators considered above, the one-year continuation rate of the Fall 2012 entrants was included in the regression analyses summarized in the appendix. In this instance, however, both CSUN GPA and units earned were introduced into the models as antecedent variables, with CSUN GPA the more important. Although considerable variance can be explained as a result, relatively little is directly attributable to students' summer experience. Such experience has

¹⁵ Only 8% of the Summer Bridge students enter CSUN with high school GPAs exceeding 3.50.

considerable indirect effects, however.¹⁶ Thus, as Figure 4 indicates, the one-year continuation rates of the various summer experience subgroups vary in expected ways. When one controls for high school GPA, the persistence of the Early Start students clearly outstrips that of the Should Haves. In contrast, it clearly lags that of the Exempt students, especially at the lower end of the high school GPA distribution. At the higher reaches, however, the gap in continuation rates diminishes sharply. In short, although the Early Start experience enhances persistence, entering CSUN fully prepared for college work remains the best way to insure persistence into a second year of study.

The persistence pattern of the Summer Bridge students is both atypical and unexpected. Given the fact that so many were in good academic standing at the end of Spring 2013, one would have expected higher persistence into a second year of study. Further, the relative flatness of the blue line in Figure 4 suggests that preparation at entry plays less of a role in the persistence of the Summer Bridge students than is the case for the other groups shown. To some degree, this is because so few of these students arrive fully proficient at Fall entry, with 70% needing remediation in both writing and mathematics (see Table 5). And the need for remediation in the second, in particular, accounts for these students' unexpectedly low one-year continuation rate. Of the Summer Bridge students who did not return for a second year of study (n=99), only 12% were not in Good Standing at the end of their first Spring term, but 27% had been unable to complete their remedial work in mathematics by the beginning of their third term at CSUN and another 27% were neither in Good Standing or proficient in mathematics. Thus, the majority of the Summer Bridge students unable to register at CSUN in Fall 2013 had yet to successfully complete their remedial work in mathematics.

Of the Summer Bridge students who did complete their remedial work in mathematics, in contrast, 82% returned for a second year of study, a rate that is on a par with the continuation rate of the Exempt

¹⁶ These indirect effects are exercised through the influence of summer experience on CSUN GPA and units earned.

students. Additional analysis suggested that the problem may go back to the character of the classwork that Summer Bridge students undertook in Summer 2012. Even though so many of these students needed substantial remediation in mathematics (see third section of Table 4), only one-third did intensive work in the subject during the summer prior to their Fall term entry. Of those who did, 83% were still enrolled one year after entry compared to 66% of those who did no such work. These findings suggest that intensive coursework in mathematics in the summer before Fall entry is essential for many Summer Bridge students.¹⁷

Figures 5a and 6a again use the Have Nots (shown in red) as a benchmark for assessing the differing GPA and persistence gains of two groups of Early Start students: those undertaking summer work in writing (shown in purple) and those undertaking summer work in mathematics (shown in turquoise). The CSUN GPAs and continuation rates of both outstrip those of the Have Nots, with the gap particularly noticeable for persistence. In both instances, the students doing work in mathematics performed better at each high school GPA level than those doing work in writing. Moreover, the students doing work in mathematics were able to hold their own against the Exempt students when it came to CSUN GPA, as is evident from Figure 5b. This is less true of the one-year continuation rate, where the Exempt students clearly dominate the other subgroups, with the exception of the upper levels of the high school GPA distribution (see Figure 6b). These findings suggest that freshmen entering CSUN in Fall 2012 may have benefitted more from doing summer work in mathematics than from doing summer work in writing. Thus, given the success of the Stretch writing courses in enabling CSUN's entering freshmen to complete their GE writing requirement within a year of college entry, and the challenges they face in mathematics, it would make sense to restrict the Early Start program to coursework in mathematics at campuses such as Northridge.

¹⁷ The EOP students in the Fresh Start program, who were enrolled in the online CHAMPS program, did not fare well either. Only 64% of them were able to return to CSUN at the beginning of their second year of college.

How Do the Fall 2012 Freshmen Compare to Their Immediate Predecessors?

Given the success just documented for the Fall 2012 freshman participating in CSUN's inaugural Early Start programs, it seems important to ascertain whether these new entrants out-performed their immediate predecessors. Insofar as they have, most of the credit would go to the introduction of the new summer initiatives because the EOP Summer Bridge programs offered in Summer 2012 were largely identical to those offered in Summer 2011. And, since the newly introduced Early Start requirements are geared towards benefitting students who need remediation in English or mathematics at entry, all comparisons presented in this section, with the exception of those shown in Table 20, exclude the freshmen in both cohorts who were fully proficient at the beginning of the summer before their formal Fall entry.

Before turning to the performance differences, a brief look at possible differences in the two cohorts' entry characteristics is in order. The first section of Table 20 indicates that both cohorts are virtually identical in their need for remediation at entry, with only a third fully proficient at the beginning of the summer before their Fall entry. By the time the Fall term rolled around, a small gap favoring the Fall 2012 entrants had become evident in the proportion of students needing remediation in mathematics: 50% vs. 53%, according to the last row of Table 20. This gap is not large enough to be statistically significant, however, nor is it of substantive significance. These findings suggest that the immediate effects of Early Start in terms of gains in proficiency at entry are not great, though greater gains may be evident for the Fall 2013 freshman entrants, now that the always challenging introduction of the new initiative is behind us.

Table 21 indicates that differences in background between the two cohorts are minimal, at best. The Fall 2012 entrants are slightly less likely than the Fall 2011 entrants to stem from traditionally underserved groups (68% vs. 71%) and to be Pell Grant recipients (66% vs. 68.5%). Although statistically significant at the .05 level, such differences are not of much substantive significance and

certainly not great enough to affect differences in performance. This is evident from Table 22, which summarizes various measures of entry-level preparation for the freshmen in the two cohorts who needed remediation at entry. Neither the differences in high school GPA nor those in the three test scores shown are statistically or substantively significant. Thus, it seems fair to conclude that the two cohorts were indistinguishable at entry, despite slight differences in racial and ethnic background.

The first section of Table 23 indicates that the number of remedial units earned by the entering freshmen in each of the two cohorts does not differ. Close to three-fifths of the students in each who needed remediation at entry earned at least three remedial units during their first year at CSUN, while close to half earned 3-5 units (49% of the Fall 2011 entrants and 46% of the Fall 2012 entrants). In contrast, there are statistically significant, but modest, differences in cumulative units earned during students' first college year, with 32% of the Fall 2012 entrants earning at least 27 units compared to 24% of the Fall 2011 entrants.

The first three sections of Table 24 summarize the percentage of freshmen completing three requirements by the end of their first college year. The degree to which the students in the two cohorts have completed their remedial work in mathematics is indistinguishable, while the Fall 2012 entrants are somewhat more likely than the Fall 2011 entrants to have completed the GE requirement in quantitative reasoning (28% vs. 24%). The same applies to students' ability to successfully complete the GE requirement in writing during their first year at CSUN: 83% of the Fall 2012 entrants did so compared to 79% of the Fall 2011 entrants. Although the observed differences in completion rates for the GE requirements in math and writing are statistically significant, the gap between the two cohorts in the percentage of completers remains relatively small.

The fourth section of Table 24 indicates that students' cumulative GPA at the end of their first year of study differs significantly among the freshmen needing remediation at entry. Once again, the Fall 2012 entrants have slightly higher CSUN GPAs, on average, than the Fall 2011 entrants: 2.72 vs. 2.67.

Similarly, 77% of the Fall 2012 entrants finished the year in good standing compared to 74% of the Fall 2011 entrants needing remediation at entry (see the fifth section of Table 24). Despite the statistical significance of both of these differences, they are modest, at best.

Finally, according to the last section of Table 24, the Fall 2012 entrants were more likely than the Fall 2011 entrants to return to CSUN for a second year of study (74% vs. 71%). Although statistically significant at the .01 level, such a difference in persistence appears modest, though gains of this magnitude in the one-year continuation rate are rare at CSUN.¹⁸

Because preceding discussion indicated that performance during the first year of college varies by high school GPA, Figures 7-10 examine whether controlling for it, and thereby for differences in entry-level preparation for college work, reveals greater divergences in performance than appear in Table 24. Figure 7 displays the resulting figures for cumulative units earned, with Figure 7a contrasting the average number of units earned by three groups of freshmen entering in Fall 2012: those who entered proficient in both writing and mathematics (shown in green), those who needed remediation in mathematics at entry (shown in red), and those who needed remediation in writing (shown in turquoise). Clearly the performance of the last two, which is virtually identical, lagged that of the proficient students, with the gap increasing as high school GPA rises. The same pattern is evident for the Fall 2011 entrants shown in Figure 7b, with the size of the gap between the proficient and those freshmen needing remediation at entry largely the same. Across the board, however, as Figure 7c indicates, the average number of units

¹⁸ It is worth noting that for freshmen who entered fully proficient, those entering in Fall 2012 were more likely to return for a second year of study than those entering in Fall 2011 (86% vs. 82%). This suggests that part of the four-point net gain in the overall one-year continuation rate of the Fall 2012 entrants (78% vs. 74% for the Fall 2011 entrants) is due to the smaller size of the entry cohort (N=4,147). Class size is unlikely to provide the full explanation for the unusually large gain, however, since the one-year continuation rates for the last similarly sized freshman classes were noticeably lower: 74% in Fall 2009 and 73% in Fall 2007 (in both years, 4,100 - 4,200 new freshmen enrolled).

accumulated by the Fall 2012 entrants needing remediation in mathematics at entry is somewhat higher than the number of units accumulated by the comparable Fall 2011 entrants.¹⁹

Figures 8a and 8b show a larger gap in average CSUN GPA for the three groups examined than was the case for cumulative units earned. In contrast to the Fall 2011 entrants, among whom the performance of students needing remediation in writing or mathematics is indistinguishable, the gap in CSUN GPA between the proficient freshmen and those needing remediation in mathematics is smaller for the Fall 2012 freshmen than it is for students needing remediation in writing at entry. Although the gap in CSUN GPA between the proficient and those needing remediation at entry again increases along with high school GPA for both entry cohorts, the gap at the upper end of the high school GPA continuum is smaller for the Fall 2012 entrants than for the Fall 2011 entrants (.40 vs. .46 GPA points). As a result, the relative GPA gains made by the Fall 2012 entrants needing remediation in mathematics at entry increase as high school GPA rises, as is clear from Figure 8c.

Figure 9, by focusing on the percentage of students who ended their first college year in good academic standing, shows clearer gains for the remedial students than Figure 8 did. Among the Fall 2011 entrants shown in Figure 9b, the gap between the proficient and the students needing remediation at entry does not vary by remedial need. Among the 2012 entrants shown in Figure 9a, in contrast, the students needing remediation in mathematics at entry are more likely to be in good standing at the end of their first college year than are those needing remediation in writing at entry, with the difference evident for all but the students at the lowest end of the high school GPA continuum. Further, as Figure 9c indicates, the Fall 2012 entrants with remedial needs in mathematics are more likely to be in good academic standing at all high school GPA levels than are the comparable Fall 2011 entrants, though their relative gains are greater at the upper end of the high school GPA continuum than at the lower end.

¹⁹ Because so many CSUN freshmen enter needing remediation in both mathematics and writing, the relative gains in cumulative units earned shown in Figure 7c would be much the same for students needing remediation in writing at entry.

A somewhat different pattern is evident for the one-year continuation rate, as is evident from the three variants of Figure 10. The first shows that the persistence rates of the Fall 2012 freshmen needing remediation at entry lag those of the proficient entrants, with the gap narrowing as high school GPA rises. Atypically, the one-year continuation rate of the freshmen needing remediation in writing is somewhat higher than that of those needing remediation in mathematics, though the gap narrows at the upper end of the high school GPA distribution. A similar narrowing is not evident for the Fall 2011 freshmen needing remediation at entry, though the gap between the proficient and those needing remediation again narrows at the upper end of the high school GPA continuum (see Figure 10b). Despite their less robust persistence, Figure 10c indicates that the Fall 2012 freshmen needing remediation in mathematics at entry are more likely than the Fall 2011 entrants to persist into a second year of study, with their relative gains increasing along with increases in high school GPA.

Figures 11 and 12 contrast CSUN GPAs at the end of the first college year and the one-year continuation rates of the Fall 2011 and Fall 2012 freshman needing remediation at entry, but differing by racial and ethnic background. In both figures, students from traditionally underserved backgrounds are shown in turquoise, while those from better served backgrounds are shown in purple, with the Fall 2012 students again shown in the “a” variant and the Fall 2011 entrants shown in the “b” variant. In both cohorts, students from traditionally underserved backgrounds lag those from better served backgrounds at all levels of the high school GPA distribution. The existence of such a gap is hardly surprising, since, as initial discussion indicated, students from traditionally underserved backgrounds are disproportionately involved in Early Start, thanks to their greater need for remediation at entry. What is striking about the two variants of Figure 11 is that the gap in average CSUN GPA is smaller for the Fall 2012 entrants than for the Fall 2011 entrants, with the diminution especially evident at the upper ends of the high school GPA continuum (i.e., 3.11 or higher). For the one-year continuation rate as well, the gap in persistence narrows more sharply at the upper end of the high school GPA distribution for the Fall 2012 entrants than

for the Fall 2011 entrants (see Figure 12). The gap in persistence remains quite large at the lower end of the distribution, however. Nonetheless, taken together, the findings suggest strongly that freshmen from traditionally underserved backgrounds benefited disproportionately from the Early Start Program during its first year of operation.

The Initial Experiences of the Fall 2013 Freshman Entrants

With two exceptions, the Early Start programs offered in Summer 2013 were the same as those offered in Summer 2012. The exceptions, as is evident from Table 25, are that CSUN's small Strong Start Program was discontinued and, building on the successes of the first Early Start summer, three-unit face-to-face mathematics courses were added to the curriculum. Close to 300 incoming freshmen (n=274) successfully completed the new three-unit option, with 1,378 completing the one-unit online option in mathematics; together, they accounted for 28% of the Fall 2013 freshman entrants. Of these, one-third also completed a set of online intensive writing exercises, while another 3% (n=196) focused exclusively on these exercises. In addition, 10% of the entrants participated in one of the summer EOP programs, with three-fifths involved in the well-established Summer Bridge programs.

This leaves two groups of entering freshmen who did not participate in any summer activities: 47% who were Exempt, generally because they were fully prepared for college work at the beginning of the Summer 2013 term, and 12% who should have participated in Early Start, but studiously ignored the multiple e-mail messages they received urging them to sign up for the program. These Should Haves constituted a somewhat larger proportion of the Fall 2013 freshmen cohort than they had of the Fall 2012 cohort (12% vs. 10%). Although the proportion of new freshmen participating in the Early Start Program was virtually identical in the two summers, the number of participants was significantly larger in Summer 2013 than in Summer 2012 (2,184 vs. 1,731), thanks to a substantial increase in the size of the two freshman cohorts (5,818 entrants vs. 4,147 entrants).

The Character of the Summer Work Completed by the Fall 2013 Freshman Entrants

The first three sections of Table 26 summarize the differing experiences of the three distinct groups of freshmen who undertook some summer work prior to their formal Fall-2013 entry. All of the students participating in the Summer Bridge programs attempted University 100, CSUN's three-unit introduction to college work. Just over two-fifths of them also completed extensive preparatory work for their Fall-term Stretch writing courses, while approximately one-fifth attempted a three-unit face-to-face remedial course in mathematics. In contrast, the Fresh Start students focused exclusively on mathematics, with all attempting the one-unit online variant. Much like the Fresh Start students, most of the Early Start students focused on online remedial coursework in mathematics. Fifteen percent undertook a three-unit face-to-face course in mathematics, however, while 38% completed the online writing exercises.

Table 27 summarizes the Early Start students' success in their remedial math coursework. Although very few failed in their summer efforts (i.e., received no credit), the students attempting the three-unit courses were considerably more likely than those attempting the one-unit variants to receive credit, thereby reducing their remedial requirements.²⁰ Further, the students attempting the online version of the initial remedial course were more likely to earn credit for it than were the students attempting the more advanced variant (52% vs. 22%).

Taken together, over a third of the Early Start students (37%) reduced their remedial requirements as a result of their summer work, as is evident from the fourth section of Table 26. All such reductions were in mathematics rather than in English, thanks to the differing structure of the summer programs in the two subjects. Of the Early Start students making gains, almost two-fifths ended the summer term fully proficient in mathematics. A fair number of the Summer Bridge students were also able to reduce their remedial requirements through their summer work, though none became fully proficient in mathematics

²⁰ To some degree, these differing accomplishments may reflect the fact that students attempting the one-unit variant had to subsequently complete a proctored assessment of their preparedness for college work in order to reduce their remedial requirements.

as a result. Insofar as the Fresh Start students reduced their remedial requirements, in contrast, they became proficient in mathematics, but the number achieving such success is very small.

As was the case in preceding discussion of the Fall 2012 summer program participants, the Summer Bridge students are considered separately from the Early Start participants in the rest of this section. In the case of the Fall 2013 freshmen, however, two groups of Early Start participants are distinguished: those attempting a three-unit face-to-face course and those attempting a one-unit online course, with the Fresh Start students merged with the latter grouping. The three resulting subgroups are again consistently compared with two others: the Should Haves (i.e., students who did not participate in Early Start, though they should have) and the Fall 2013 freshman entrants who were exempt from all summer work, primarily because they were deemed adequately prepared for college work.

The Background and Preparation of the Fall 2013 Freshman Entrants

Before turning to the incoming freshmen's Fall-term coursework in writing and mathematics, it is again worthwhile to consider differences in their entry characteristics. Thus, Table 28 summarizes the background of the Fall 2013 freshmen belonging to the five groupings considered, while Tables 29 and 30 summarize aspects of their high school preparation.

Much as was the case for the Fall 2012 freshman entrants, students who were exempt from the Early Start requirements differ most clearly from the other subgroups shown, among whom the Summer Bridge students are usually distinctive. As Table 28 indicates, the vast majority of the latter are Pell Grant recipients and belong to traditionally underserved racial and ethnic groups, with just over three-fifths stemming from Latina/o backgrounds. In contrast, less than half of the Exempt students belong to traditionally underserved groups or are Pell grant recipients. The majority are also men, contrasting again with the other subgroups shown. Among these subgroups, however, men are least well represented among the Early Start students, seven-tenths of whom are women. In other respects, both types of Early

Start students and the Should Haves tend to resemble the Summer Bridge students: three-fifths to three-quarters stem from Latina/o backgrounds or receive Pell grants.

As one would expect, the Exempt students are again well-prepared for college work. The first section of Table 29 indicates that close to half had high school GPAs of 3.26 or higher, while close to three-fifths had composite scores of 1000 or higher on the SAT. In addition, as the other two sections of the table indicate, 56%-61% were exempt from taking either the EPT or the ELM, thanks to their high SAT scores. Only one-fifth needed remediation in mathematics at college entry, while just over a third will have to take a yearlong Stretch composition course.²¹

Not unexpectedly, the Summer Bridge students display a sharply different set of entry characteristics. Approximately two-thirds have high school GPAs of 3.0 or lower, with only one-fifth having a GPA that exceeds 3.25. Similarly, almost none have composite SAT scores that exceed 1000, with a median score of 760. Thus, almost all were required to complete the EPT and ELM tests, with one-half to three-quarters scoring in the lowest groupings shown in Table 29 (i.e., scores low enough to require two semesters of remedial work in mathematics and the most intensive yearlong Stretch English course).

The two types of Early Start participants fall midway between these two extremes. Table 29 indicates that close to two-fifths had high school GPAs of 3.0 or lower, while close to one-third had GPAs of 3.26 or higher. Very few had composite SAT scores exceeding 1000, with an average score of 820-840. Thus, the vast majority took the EPT and ELM tests, with 40%-50% scoring well enough to need only one remedial course in mathematics. Just over half are also subject to taking the most intensive Stretch English course, thanks to their EPT scores. The Should Haves are quite similar to the two Early Start groups in their preparation for college work. Close to two-fifths have high school GPAs of 3.0 or

²¹ Once again, the relatively small group of Exempt students needing remediation in math are those who were exempt from summer work for reasons other than proficiency at entry (e.g., late applicants, international students). In addition, the proportion of Exempt students who need a yearlong Stretch composition course is relatively large because only students scoring in the lowest quartile on the EPT were subject to the Early Start requirement in Summer 2013, as was the case in Summer 2012.

lower, while one-third had GPAs of 3.26 or higher. Only one in ten has a composite SAT score exceeding 1000, with a median score of 840. Consequently, most were required to complete the EPT and ELM tests, with close to half needing one remedial course in mathematics and the most intensive Stretch writing course.

In sum, as was the case for the Fall 2012 freshmen, the Should Haves differ from the two Early Start subgroups in relatively few respects. Although three of the differences between them are statistically significant, as is evident from the statistics at the bottom of Tables 28 and 29, none are of great substantive significance. The Early Start students are somewhat more likely than the Should Haves to be women (70% vs. 57%) and to be Pell Grant recipients (69% vs. 61%). All three sets of students have similar high school GPAs and composite SAT scores. Finally, they are equally unlikely to be fully prepared for college work in English and mathematics at summer entry.²² Given these similarities in the backgrounds and entry-level preparation of the Should Haves and Early Start participants, it again seems reasonable to conclude that differences in achievement emerging among them during their first college year are attributable to their differing patterns of participation in the Early Start Program.

In the light of the differences in preparation outlined above, it is to be expected that the students who were exempt from Early Start participation at the beginning of the Summer 2013 term again remained the best prepared for college work at the end of that term. This is evident from Table 30. In contrast to the Fall 2012 entrants, however, the two Early Start subgroups have become noticeably better prepared in mathematics by the end of the summer. Among the students completing the online variant, the proportion needing remediation in mathematics declined by 10% (from 87% to 77%), while the proportion has

²² The apparently significant difference in ELM scores is more apparent than real, since it is a result of the somewhat lower scores of the small group completing the three-unit remedial mathematics courses.

dropped by 32.5% among the freshmen attempting the three-unit face-to-face course (from 100% to 67.5%). The comparable figure for the Fall 2012 Early Start students is a decline of 6% in the proportion needing remediation in math at entry (from 93% to 87.5%).

The statistics at the bottom of Table 30 indicate that the modest differences between the Should Haves and the two Early Start groups at the beginning of the summer had become somewhat more pronounced by its end. Further, the direction of the difference has reversed. Thus, at the beginning of the Summer term, the proportion of Early Start students needing remediation in mathematics at entry exceeds that of the Should Haves by a small amount (89% vs. 85%), while by the end of the summer, the Early Start students are less likely to need further remediation, with the proportion needing remediation 17 points lower for the Early Start face-to-face students than for the Should Haves. In short, for the second year in a row, the summer gains of the Early Start students provided an early harbinger of the Program's benefits.

Units Attempted by the Incoming Freshmen During Fall 2013

Table 31 summarizes the number of units attempted by the Fall 2013 freshmen during their first term at CSUN, with the numbers of Remedial and Other units attempted shown separately. In evaluating the figures, it is, once again, important to bear in mind that at Northridge differences in the amount of remedial work students undertake reflect the degree to which they are attempting coursework in mathematics, because the Stretch approach completely abolishes the notion of remedial work in composition.

The first section of Table 31 indicates that approximately one in ten of the Exempt students attempted remedial units during Fall 2013, while seven in ten attempted 12-14 non-remedial units. Among the Should Haves and Early Start students, in contrast, between one-half and three-fifths attempted five remedial units and three- to four-fifths attempted 7-11 non-remedial units. Once again, the Summer Bridge students unexpectedly differ from the Early Start students. Although more than four-fifths of them

attempted three to five remedial units during the Fall 2013 term, approximately three-quarters attempted 12-14 Other units. When remedial and other units are combined (see third section of Table 31), Fall-term unit loads become more similar, with three-quarters of all freshmen attempting 12-14 units. The only clear exception is the Summer Bridge students, most of whom appear to be attempting at least 15 units. This may again be an anomaly, however, since these students do not receive credit for some of their summer work until the following Fall term.

Enrollment in Fall-Term Writing and Mathematics Courses

More than nine in ten of the freshmen subject to the Early Start requirements in Fall 2013 attempted a Stretch composition course during their first college term, as is evident from Table 32. The same is true for a little more than four in five of the entering freshmen who were Exempt from the requirements, making them least likely to begin completing this basic GE requirement during their first term in college. As was the case in Fall 2012, the Stretch courses attempted by the Fall 2013 freshman entrants differed by summer experience. As Table 32 indicates, virtually all of the Early Start participants doing summer work in writing enrolled in 113A courses, as did just over three-quarters of the Summer Bridge students and close to half of the Should Haves. In contrast, three-quarters of the Early Start students whose summer work focused exclusively on math enrolled in a 114A or the one-semester 115 course, while just over half of the Exempt students enrolled in the second. The Stretch enrollment patterns of the most recent freshman entrants are largely the same as those observed for the Fall 2012 freshman entrants (see Table 8).

Cohort similarities are also evident in the percentage of Fall 2013 entrants attempting mathematics courses during their first college year. As was the case in Fall 2012 (see Table 12), Exempt freshmen were least likely to enroll in any mathematics course. Of the remaining Exempt students, more than four in five enrolled in a GE math course, as is evident from Table 33. The Early Start participants whose summer work was confined to writing also resemble their immediate predecessors, with three-fifths of

those enrolling in a mathematics course attempting a GE course and 17% failing to enroll in any math course. In contrast, more than nine in ten of the Summer Bridge students and the Should Haves enrolled in a mathematics course, with the vast majority attempting a remedial course. Nonetheless, one in ten of the Should Haves enrolled in a GE course, which represents a gain over the comparable Fall 2012 percentage (11% vs. 6%).

The enrollment pattern of the Early Start participants also differs from that observed in Fall 2012, with most of the differences due to divergence in the summer work undertaken. As one might expect, the students attempting a three-unit face-to-face summer course are significantly more likely than the Fall 2012 Early Start participants to be enrolled in a GE math course (20% vs. 5%). Less expected is the fact that they are also less likely to be enrolled in any mathematics course (13.5% vs. 3%). Those Fall 2013 freshmen completing the one-unit online option, in contrast, have a Fall-term enrollment pattern that is much like that observed in Fall 2012, with just over four in five enrolled in a remedial course. These Fall 2013 one-unit Early Start participants, however, are more likely than their Fall 2012 counterparts to be attempting a GE math course (10% vs. 5%).

Overview of Major Findings

Initial discussion in this report identified two groups of Fall 2012 and Fall 2013 freshman entrants on whom discussion would focus: participants in the Summer Bridge and Early Start programs.²³ Incoming freshmen involved in either completed online or face-to-face coursework during the summer prior to their formal Fall-term entry, with the Summer Bridge students undertaking the more intensive work, but less likely to undertake coursework in mathematics. In the preceding pages, the performance of these two groups during the last 16 months has been systematically compared to that of a relatively small group of

²³ The Summer Bridge group also included the small number of students involved in CSUN's Strong Start program during Summer 2012, while the Early Start group included the EOP students completing online work in mathematics.

students who should have participated in the Early Start initiative but did not and to that of freshmen fully prepared for college work, and therefore exempt from the newly instituted Early Start requirements.

Initial discussion indicated that the Exempt and Summer Bridge students differ most sharply from each other in background and preparation for college work. The former are less likely than others to be women, to stem from traditionally underserved racial and ethnic groups, and to be Pell Grant recipients. They are also best prepared for college work, with relatively few needing remedial work at entry. Almost all of the Summer Bridge students, in contrast, stem from traditionally underserved backgrounds and are Pell Grant recipients. At entry, most also need to complete two semesters of remedial work in mathematics and to enroll in the most intensive yearlong Stretch composition course. The Early Start students and the Should Haves fall in between these two extremes. In background, they resemble the Summer Bridge students, with well over half stemming from traditionally underserved backgrounds or receiving Pell Grants at CSUN entry. Close to half need to complete only one remedial course in mathematics and must enroll in the most intensive Stretch composition course. Given these similarities in background and preparation for college work, it seems reasonable to conclude that differences in the initial college achievements of the Should Haves and the Early Start students are attributable, at least in part, to their differing Early Start experiences during the summer before their formal college entry.

And such differences are indeed evident, as discussion in the preceding pages has revealed. Both the Early Start and Summer Bridge students entering in Fall 2012 out-performed the Should Haves in their Fall-term math courses and in the Stretch composition courses that they attempted in either Fall 2012 or Spring 2013. More unexpectedly, the findings summarized here also revealed that, in many respects, the performance of the students in the Early Start and Summer Bridge groups was very similar to that of the Exempt students, despite the clear differences in their preparation for college work. Although the former were more likely than the latter to be attempting remedial math courses in both the Fall and Spring terms, their overall unit loads were remarkably similar. Further, the Early Start and Summer Bridge students

performed as well as, if not better than, comparable Exempt students enrolled in the Stretch composition courses offered during the 2012-13 academic year. The Early Start students also performed well in their remedial math courses and those able to advance to GE courses in Spring 2013 performed on a par with the Exempt students. Although the Summer Bridge students performed as well as the Early Start students in their Fall-term math courses, their Spring-term grades lagged somewhat.

Since the Fall 2012 freshmen subject to the Early Start requirements are significantly more likely than the Exempt students to have attempted and completed remedial math courses during their first college year, they were less able to accumulate the baccalaureate units that count towards graduation. Thus, the Summer Bridge and Early Start students were significantly less likely than the Exempt students to earn as many as 24 such units during their first college year. At the same time, most of them earned at least 18 such units and were significantly more likely than the Should Haves to attain the 24-unit mark.

Although relatively few of the Early Start and Summer Bridge students entering in Fall 2012 completed a GE math course by the end of their first college year, they were slightly more likely than the Exempt students to complete their GE writing requirement. Further, although the Exempt students tend to have higher CSUN GPAs than the Early Start or Summer Bridge students at the end of their first college year, they are no more likely to end the year in good academic standing. Two-fifths of the Should Haves, in contrast, ended the year on probation or disqualified. Moreover, once the effects of differing preparation for college work are taken into account, it becomes clear that the Early Start and Summer Bridge students not only ended their first college year with higher CSUN GPAs than the Should Haves, but performed on a par with the better prepared Exempt students. The same applies to cumulative units earned.

Comparison of the performance of the Fall 2012 freshman entrants with that of their immediate predecessors reveals small, but noticeable, gains in CSUN GPAs and the cumulative units earned by the Fall 2012 entrants at the end of their first college year. The gains in persistence may be the most

impressive. Although the Exempt students are consistently more likely than other Fall 2012 freshman entrants to return for a second year of study, the Early Start students approach their one-year continuation rate at the upper reaches of the high school GPA distribution. Further, the three-percent gain between 2011 and 2012 in the one-year continuation rate of students needing remediation at CSUN entry is impressive; gains of this magnitude are rare indeed at CSUN. The fact that these gains are evident among students with widely differing high school GPAs provides strong evidence that the introduction of the Early Start Program has enhanced freshmen performance and persistence.

Although it is too early to draw any conclusions about whether the Fall 2013 freshmen entrants participating in last summer's Early Start Program will derive similar benefits from the Program during their first college year, the immediate gains attributable to the introduction of the three-unit face-to-face mathematics courses are noteworthy. Of the freshmen completing such courses in Summer 2013, the proportion still needing remediation in mathematics at the end of the term fell by a third. Further, the students completing the one-unit online variant were somewhat more likely than similar freshmen in the Fall 2012 entry cohort to be fully proficient in mathematics by the end of the summer. It remains to be seen, of course, whether these initial benefits will enable the Fall 2013 entrants to make greater gains in achievement and persistence than their Fall 2012 predecessors did.

The clear gains in CSUN GPA, in particular, that emerged for the Fall 2012 freshman entrants are more unexpected than the others documented in preceding pages. They make sense, however, for the Summer Bridge students, who receive a great deal of support throughout the college year. But, given that many of the Early Start participants entering in Fall 2012 did little more than complete 12-15 hours of coursework during a six-week summer session, the strength of their performance is surprising. This strength suggests that Early Start Program provides more than a little supplementary work in mathematics or writing. Far more important may be the less tangible social psychological benefits provided by this early introduction to college work.

Among other things, the Early Start experience quickly exposes differing expectations between the college and high school settings. Thus, for example, students learn early on that assignments must be turned in on time at CSUN, if students are to receive full credit for their work, something that is not the case at some of their high schools. The value of learning such lessons before the beginning of one's first college term rather than during it should not be under-estimated.

Further, students who find their summer work more challenging than they expected, especially in mathematics, may be more willing to acknowledge that, despite their success in high school, they may need some initial remedial work at CSUN. Thus, they are likely to tackle their Fall-term coursework in quite a different frame of mind. Similarly, the students who are successful in their summer work are likely to be reassured about their ability to prosper at CSUN, enabling them to approach their initial college work with greater confidence. And it is this increased confidence that may account for much of the academic success documented here.

Appendix:

Antecedents of CSUN GPA and Cumulative Units Earned: Regression Findings

The discussion in the ninth section of this report (The Appropriate Context...) rests on the findings emerging from several multivariate regression analyses that examine three key aspects of the first-year performance of the first time freshmen entering CSUN in Fall 2012: cumulative units earned, CSUN GPA at the close of the students' first Spring term, and their one-year continuation rate. Before summarizing the effects of a range of independent variables on these three performance indicators, this appendix examines the interrelationships between the selected aspects of students' background and entry-level preparation included in various analyses.

The background factors consistently incorporated in the analyses include racial and ethnic background, gender, and Pell-Grant status, with the last serving as a proxy for low-income status. Also included are two indicators of entry-level preparation: high school GPA and composite SAT scores. The zero-order correlations shown in Table A-1 indicate that these two measures of preparation are not particularly closely related. The SAT scores, however, are quite closely linked to students' ELM and EPT scores. As a result, these two scores, which are not available for a good many students, could be dropped from the analyses without any real loss of information.

Students' experience with the Summer 2012 special programs, the last key element in the analyses discussed here, was summarized with the aid of the three dichotomous groupings shown below.

Type of Summer Experience	Variable Name:		
	<u>Intense</u>	<u>Partic</u>	<u>Exempt</u>
EOP summer programs:			
- on-campus Bridge	1	1	1
- Fresh Start	0	1	1
Strong Start	1	1	1
Early Start Participants	0	1	1
Should Have Participated; Didn't	0	0	1
Exempt from Summer Programs	0	0	0

Taken together, the three dummy variables provide a means of summarizing the collective effect of students' summer experience, while also allowing assessment of individual aspects of that experience: involvement in **intense** on-campus programs (i.e., Summer Bridge and Strong Start), **participation** in any summer program, and **exemption** from all participation.²⁴

Table A-2 shows the zero-order correlations for all variables considered. They indicate that two of the three elements of student achievement examined, which appear near the bottom of the table, are quite closely related. This suggests that students earning larger numbers of units during their first year at CSUN also tended to end the year with higher GPAs. The fact that these two achievement variables are also closely related to the one-year continuation rate reflects the last's dependence on the other two. In addition, all three dependent variables appear to vary less by summer experience than by the two measures of entry-level preparation considered. Finally, the zero-order correlations shown in columns D and E suggest that composite SAT scores are more closely linked to both the summer program factors and the background variables than are students' high school GPAs.

To be included in any of the final models shown in Tables A-3 through A-7, variables had to meet two criteria: explain at least 1% of the total variance and display effects that are significant at the .001 level. In addition, the order in which variables were introduced into regression equations was determined by temporal considerations. Thus, both gender and racial and ethnic background were assumed to precede Pell-grant or low-income status, while all three were assumed to precede high school GPA, which, in turn, is assumed to precede students' performance on the SAT. Finally, all of these factors are assumed to precede the summer experience of the freshmen under consideration.

Table A-3 summarizes the regression model for Pell Grant status, along with those for the two indicators of college preparedness. The first section of the table indicates that Pell Grant status varies

²⁴ The three variables are organized as an ordinal decomposition, which allows one to sum their individual effects during regression procedures. Further, two – Partic and Exempt—are essentially mirror images of each other, differing only in terms of how the relatively small Should Have group is treated.

primarily by racial and ethnic background, with students from traditionally underserved backgrounds more likely to have Pell Grants than students from better served backgrounds. High school GPA also varies by racial and ethnic background, but far more modestly than Pell Grant status. The second section of Table A-3 indicates that high school GPA also varies modestly by gender, with women entering with somewhat higher GPAs than men.

Unlike high school GPA, SAT scores vary strongly by the background factors considered. Taken together, they account for 84% of the substantial variance explained by the model, according to the last section of Table A-3. The remaining variance that can be accounted for is explained by high school GPA, with an increase in one associated with an increase in the other.²⁵ The difference in the antecedents of students' high school GPAs and SAT scores is instructive. Since SAT scores reflect the quality of students' high school preparation, they vary by the racial and income factors that determine the academic opportunities available in students' high schools, which are usually in their immediate neighborhoods. GPA, in contrast, varies by the ability and study skills of the students attending specific high schools and thus, is less affected by these socio-economic factors.

Table A-4 indicates that summer program participation is largely determined by composite SAT scores. This is hardly surprising, since such scores, along with the strongly associated ELM or EPT scores, provide much of the basis for determining individual students' Early Start requirements. Participation in the intensive Summer Bridge program depends on two other factors as well, as the first section of Table A-4 indicates. In keeping with program guidelines, such participants are disproportionately drawn from students with lower high school GPAs and low-income backgrounds, which entitles them to Pell Grants.

²⁵ It is worth noting, that the regression results suggest that women tend to enter CSUN with higher high school GPAs than men, but that men tend to enter with the higher SAT scores.

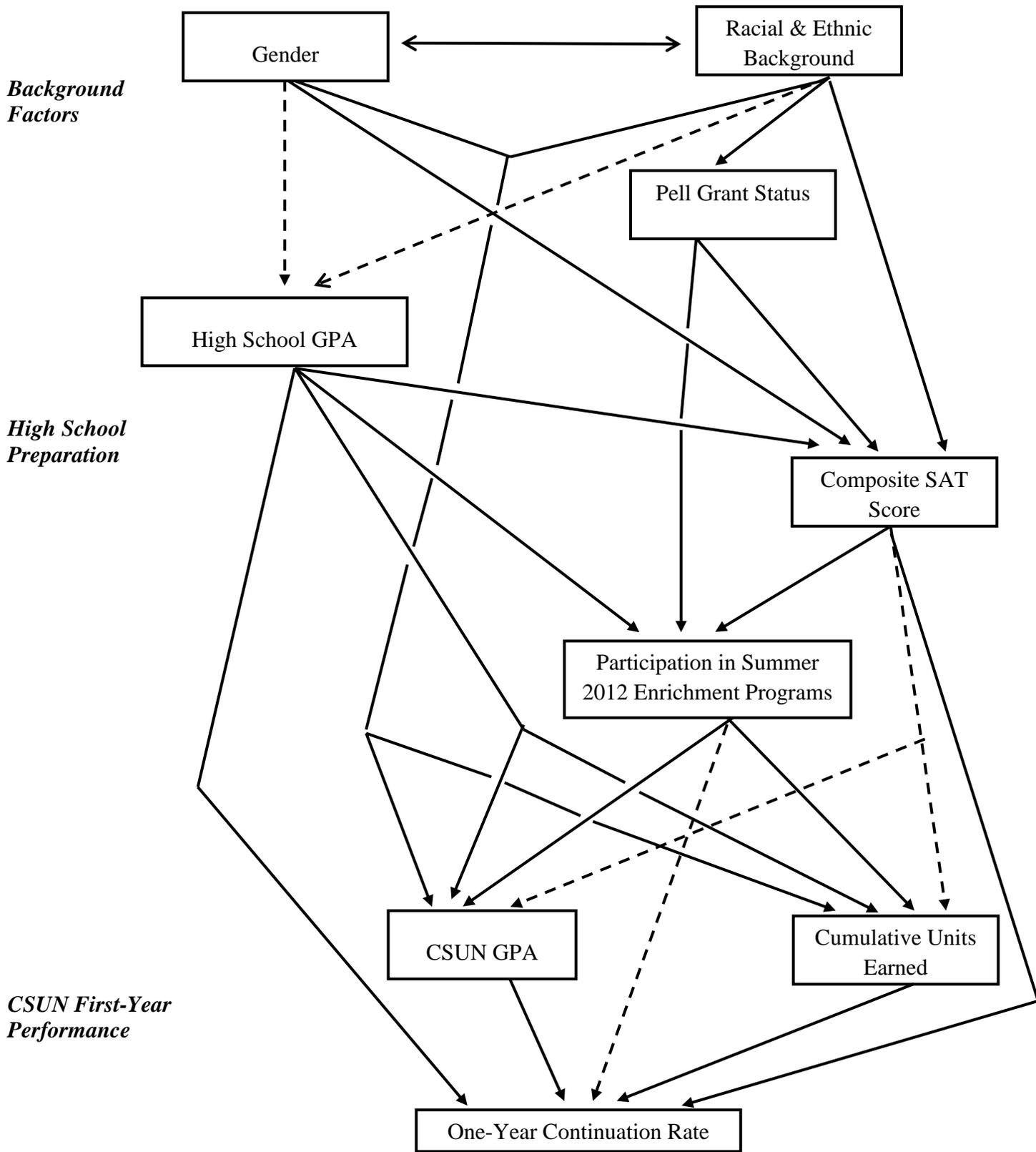
Although the explanatory power of the model summarized in Table A-5 is relatively modest, it suggests that the number of units students accumulate during their first year at CSUN varies by several factors, with summer program participation and high school GPA the most important. Of the variance explained, 24% can be attributed to differences in high school GPA, compared to only 8% for composite SAT scores. The two background factors playing a role also have a relatively modest impact. This leaves students' experience during the summer prior to their formal CSUN entry to explain the lion's share of the variance accounted for. To some degree, however, the variance explained by this last can be attributed to the fact that the Exempt students, who do not have to do remedial work in mathematics, have a much easier time accruing units that count towards graduation than do the Early Start or Summer Bridge students.

The factors affecting student's year-end CSUN GPAs are similar to those affecting the number of units earned, as Table A-6 indicates. The model summarized accounts for more variance, however, than the one shown in the previous table, with high school GPA playing the strongest role. It accounts for 52% of the variance explained, while the two background factors included account for another 22% and the composite SAT scores a modest 7%. In addition, one-fifth of the variance explained can be attributed to students' summer experience, with participation in any summer program having the greatest positive effect on CSUN GPA at the end of students' first college year.

The factors affecting the one-year continuation rate, which is articulated as a dichotomous dummy variable, are summarized in Table A-7. They differ from the factors affecting units earned and CSUN GPA in large part because these two dependent variables function as antecedent variables when it comes to the one-year continuation rate. Thus, they account for 85% of the fairly substantial variance explained. High school GPA and SAT scores account for most of the remainder, with summer program participation having only a small direct effect. Such participation has an indirect effect on persistence into a second year of college, however, via its direct effects on units earned and CSUN GPA.

The various interrelationships outlined above are summarized in Figure A-1. Broadly speaking, the three background factors considered strongly affect students' SAT scores, but have a far more modest effect on their high school GPAs. Both of these performance measures, in turn, affect the character of students' summer work, with SAT scores having the stronger effect. The two measures of students' year-end performance considered (i.e., units earned and CSUN GPA) are affected by the three clusters of factors included in the regression analyses: background factors, high school preparation, and summer experience. The two most important, however, are high school GPA and summer experience, which is why they are featured in the charts presented in the main text. Finally, Figure 1A indicates that the one-year continuation rate is dependent on the other two year-end performance measures and high school preparation.

Figure A-1. Interrelationship of the Variables Affecting the Key Aspects of First-Year Performance Examined for the First Time Freshmen Entering CSUN in Fall 2012



**Table A-1. Zero-Order Correlations for Five Potential Measures of Preparation at College Entry
(Fall 2012 Entrants Only)**

	A	B	C	D
A. EPT Scores	--	0.346	0.647	0.091
B. ELM Scores	0.346	--	0.644	0.160
C. Composite SAT score (includes ACT equivalents)	0.647	0.644	--	0.227
D. High School GPA	0.091	0.160	0.227	--
Mean	138.9	39.0	926.7	3.15
Standard deviation	7.7	12.9	160.5	0.421
Number of respondents	2,641	2,882	3,982	4,120

bold = correlation is significant at the 0.001 level (2-tailed)

Table A-2. Zero-Order Correlations for Entry and Initial Performance Characteristics of First Time Freshman Entering CSUN in Fall 2012

	A	B	C	D	E	F	G	H	I	J	K
A. Gender (0=Male; 1=Female)	--	-0.079	0.108	-0.204	0.111	0.021	0.174	0.193	0.074	0.108	0.009
B. Racial & Ethnic Background (0=Traditionally Underserved; 1=Better Served)	-0.079	--	-0.343	0.353	0.138	-0.147	-0.223	-0.243	0.136	0.168	0.121
C. Pell Grant Status (0=No aid; 1=Grant recipient)	0.108	-0.343	--	-0.335	-0.084	0.221	0.267	0.267	<i>-0.044</i>	-0.076	-0.057
D. Composite SAT score (includes ACT equivalents)	-0.204	0.353	-0.335	--	0.227	-0.287	-0.553	-0.658	0.152	0.202	0.203
E. High School GPA	0.111	0.138	-0.084	0.227	--	-0.253	-0.190	-0.227	0.190	0.337	0.159
F. Participated in Intensive Summer Program* (1=yes; 0=no)	0.021	-0.147	0.221	-0.287	-0.253	--	0.345	0.284	0.099	0.008	-0.194
G. Participated in any Summer Program (1=yes; 0=no)	0.174	-0.223	0.267	-0.553	-0.190	0.345	--	0.824	0.007	-0.019	-0.053
H. Exempt from Summer Program Participation (0=yes; 1=no)	0.193	-0.243	0.267	-0.658	-0.227	0.284	0.824	--	-0.095	-0.119	-0.062
I. Units Earned at end of first year (i.e., those counting towards graduation)	0.074	0.136	<i>-0.044</i>	0.152	0.190	0.099	0.007	-0.095	--	0.784	0.678
J. CSUN GPA at end of first year	0.108	0.168	-0.076	0.202	0.337	0.008	-0.019	-0.119	0.784	--	0.598
K. One-Year Continuation Rate (1=enrolled in third term after entry; 0=not enrolled)	0.009	0.121	-0.057	0.203	0.159	-0.194	-0.053	-0.062	0.678	0.598	--
Mean	0.55	0.35	0.59	926.7	3.15	0.08	0.42	0.52	23.2	2.65	0.78
Standard deviation	0.50	0.48	0.49	160.5	0.42	0.27	0.49	0.50	7.2	0.91	0.42
Number of respondents	4,147	3,918	4,147	3,982	4,120	4,147	4,147	4,147	4,147	4,139	4,147

* The Intensive Summer Program grouping includes the on-campus Summer Bridge Programs and Strong Start.

bold = correlation is significant at the 0.001 level (2-tailed); *italics* = correlation is significant at the 0.01 level (2-tailed)

Table A-3. Estimated Regression Models for Background Factors and Preparation at Entry (Fall 2012 Freshman Entrants)

	Unstandard. Coefficient	Standard Error	Standardized Coefficient	Signif. Level	Contribution to adjusted R ²
Pell Grant Status (0=No aid; 1=Grant recipient)					
Racial & Ethnic Background (0=Traditionally Underserved; 1=Better Served)	-0.349	0.015	-0.343	0.001	0.118
Constant	0.747	0.009		0.001	
High School GPA					
Racial & Ethnic Background (0=Traditionally Underserved; 1=Better Served)	0.131	0.014	0.148	0.001	0.019
Gender (0=Male; 1=Female)	0.108	0.013	0.126	0.001	0.016
Constant	3.045	0.011		0.001	
Total variance explained					0.035
Composite SAT Scores					
Racial & Ethnic Background (0=Traditionally Underserved; 1=Better Served)	78.605	5.058	0.232	0.001	0.125
Gender (0=Male; 1=Female)	-60.982	4.582	-0.188	0.001	0.031
Pell Grant Status (0=No aid; 1=Grant recipient)	-77.38	4.948	-0.232	0.001	0.051
High School GPA	76.036	5.380	0.200	0.001	0.039
Constant	742.646	17.331		0.001	
Total variance explained					0.246

Table A-4. Estimated Regression Models for Summer Program Participation (Fall 2012 Freshman Entrants)

	Unstandard. Coefficient	Standard Error	Standardized Coefficient	Signif. Level	Contribution to adjusted R ²
Participated in an Intensive Summer Program* (1=yes; 0=no)					
Pell Grant Status (0=No aid; 1=Grant recipient)	0.076	0.009	0.133	0.001	0.046
High School GPA	-0.130	0.010	-0.199	0.001	0.057
Composite SAT score (includes ACT equivalents)	0.000	0.000	-0.197	0.001	0.033
Constant	0.763	0.038		0.001	
Total variance explained					0.135
Participated in any Summer Program (1=yes; 0=no)					
Composite SAT score (includes ACT equivalents)	-0.002	0.000	-0.553	0.001	0.305
Constant	2.026	0.038		0.001	
Exempt from Summer Program Participation (0=yes; 1=no)					
Composite SAT score (includes ACT equivalents)	-0.002	0.000	-0.658	0.001	0.433
Constant	2.436	0.035		0.001	

**Table A-5. Estimated Regression Model for Total Units Earned at End of First Academic Year at CSUN
(Fall 2012 Freshman Entrants)**

	Unstandard. Coefficient	Standard Error	Standardized Coefficient	Signif. Level	Contribution to adjusted R ²
Background Factors					0.024
Racial & Ethnic Background (0=Traditionally Underserved; 1=Better Served)	1.458	0.241	0.098	0.001	
Gender (0=Male; 1=Female)	1.081	0.224	0.076	0.001	
High School GPA	2.927	0.270	0.175	0.001	0.027
Composite SAT score (includes ACT equivalent)	0.005	0.001	0.118	0.001	0.009
Summer Program Participation					0.054
Participated in Intensive Summer Program* (1=yes; 0=no)	4.474	0.419	0.177	0.001	
Participated in any Summer Program (1=yes; 0=no)	3.328	0.383	0.234	0.001	
Exempt from Summer Program Participation (0=yes; 1=no)	-3.349	0.419	-0.235	0.001	
Constant	8.151	1.254		0.001	
Total variance explained					0.113

* The Intensive Summer Program grouping includes the on-campus Summer Bridge Programs and Strong Start.

NOTES: Coefficients are calculated using ordinary least squares (OLS) regression

Addition of Pell Grant status or Remediation in Math added no more than 0.5% to the variance explained; thus, neither was retained in the final model.

**Table A-6. Estimated Regression Model for CSUN GPA at End of First Academic Year at CSUN
(Fall 2012 Freshman Entrants)**

	Unstandard. Coefficient	Standard Error	Standardized Coefficient	Signif. Level	Contribution to adjusted R ²
Background Factors					0.040
Racial & Ethnic Background (0=Traditionally Underserved; 1=Better Served)	0.191	0.029	0.101	0.001	
Gender (0=Male; 1=Female)	0.172	0.027	0.095	0.001	
High School GPA	0.658	0.033	0.311	0.001	0.095
Composite SAT score (includes ACT equivalent)	0.001	0.000	0.153	0.001	0.012
Summer Program Participation					0.035
Participated in Intensive Summer Program* (1=yes; 0=no)	0.366	0.051	0.114	0.001	
Participated in any Summer Program (1=yes; 0=no)	0.424	0.047	0.235	0.001	
Exempt from Summer Program Participation (0=yes; 1=no)	-0.343	0.051	-0.190	0.001	
Constant	-0.393	0.153		.010	
Total variance explained					0.182

* The Intensive Summer Program grouping includes the on-campus Summer Bridge Programs and Strong Start.

NOTES: Coefficients are calculated using ordinary least squares (OLS) regression

Addition of Pell Grant status or Remediation in Math added no more than 0.3% to the variance explained; thus, neither was retained in the final model.

**Table A-7. Estimated Regression Model for Enrollment in Third Term After CSUN Entry
(Fall 2012 Freshman Entrants)**

	Unstandard. Coefficient	Standard Error	Standardized Coefficient	Signif. Level	Contribution to adjusted R ²
High School GPA	-0.046	0.012	-0.047	0.001	0.026
Composite SAT score (includes ACT equivalents)	0.0002	0.0000	0.046	0.003	0.030
Summer Program Participation					0.016
Participated in Intensive Summer Program* (1=yes; 0=no)	-0.159	0.019	0.008	0.001	
Participated in any Summer Program (1=yes; 0=no)	0.042	0.017	0.050	0.015	
Exempt from Summer Program Participation (0=yes; 1=no)	-0.060	0.019	-0.072	0.001	
CSUN GPA at end of First Year	0.075	0.009	0.164	0.001	0.299
Total Units Earned at end of First Year	0.032	0.001	0.550	0.001	0.114
Constant	-0.112	0.055		0.042	
Total variance explained					0.484

* The Intensive Summer Program grouping includes the on-campus Summer Bridge Programs and Strong Start.

NOTES: Coefficients are calculated using ordinary least squares (OLS) regression

Figure 1a. Cumulative Units Earned at End of First Academic Year by High School GPA and Type of Summer 2012 Enrichment Program

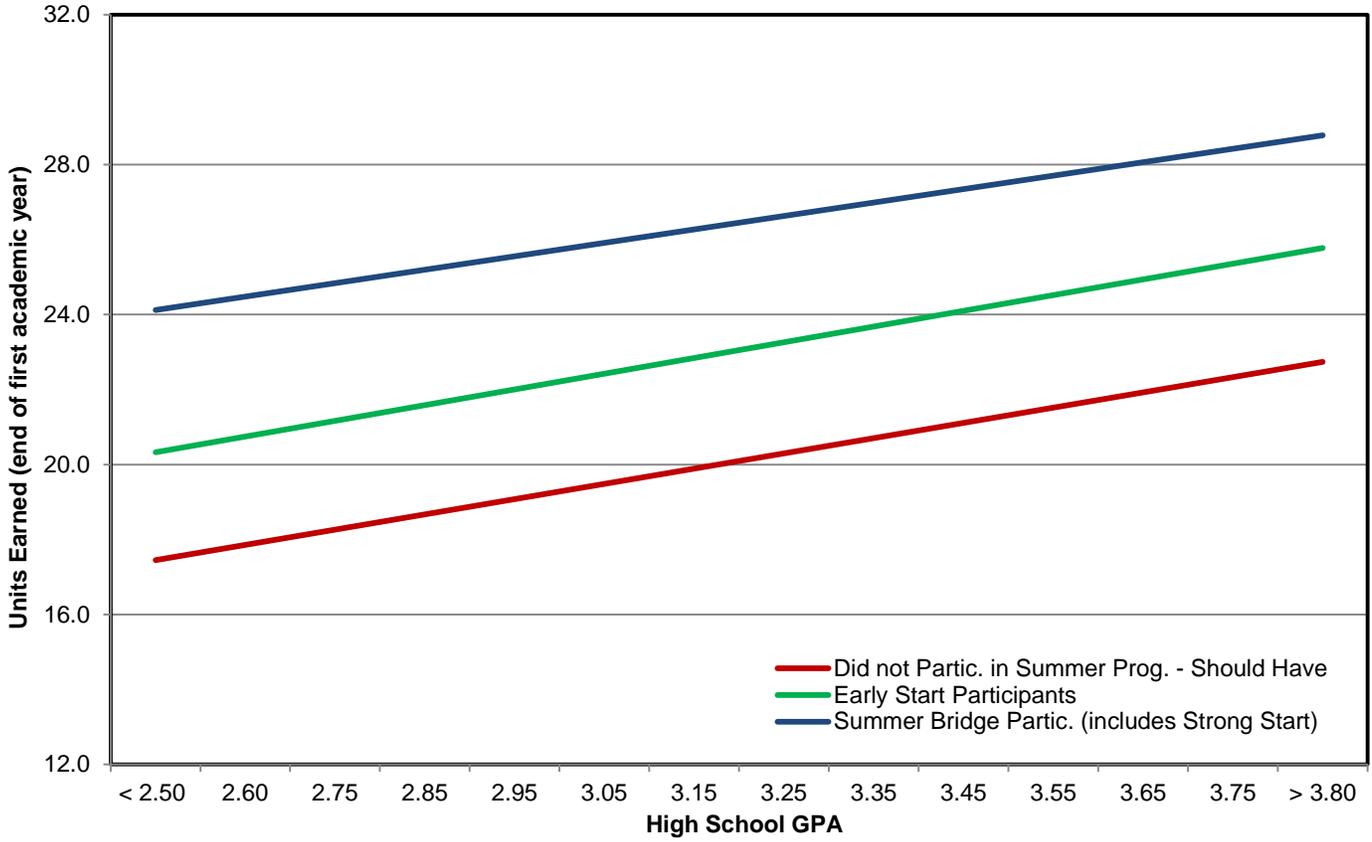


Figure 1b. Cumulative Units Earned at End of First Academic Year by High School GPA and Participation in Summer 2012 Enrichment Programs

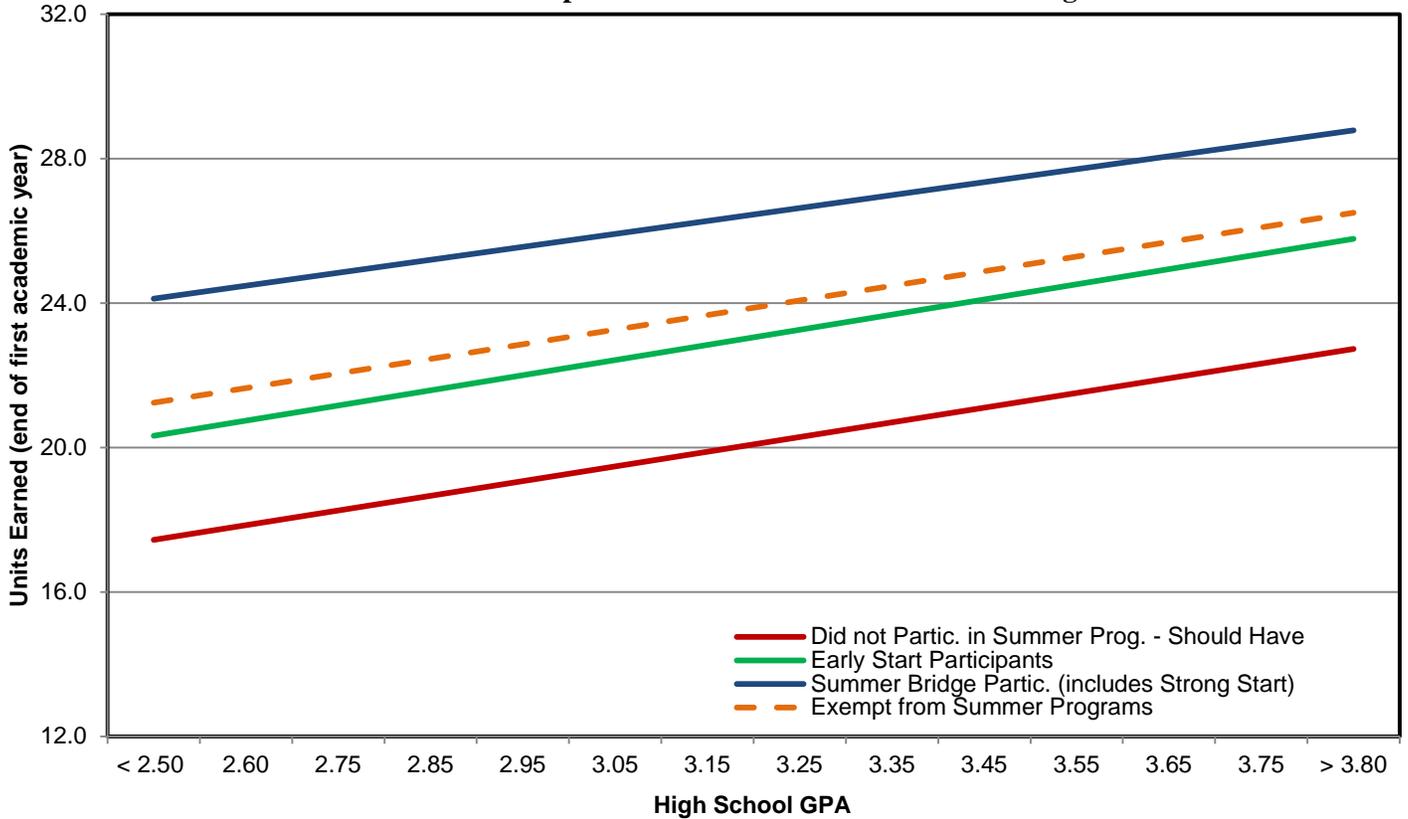


Figure 2a. CSUN GPA at End of First Academic Year by High School GPA and Type of Summer 2012 Enrichment Program

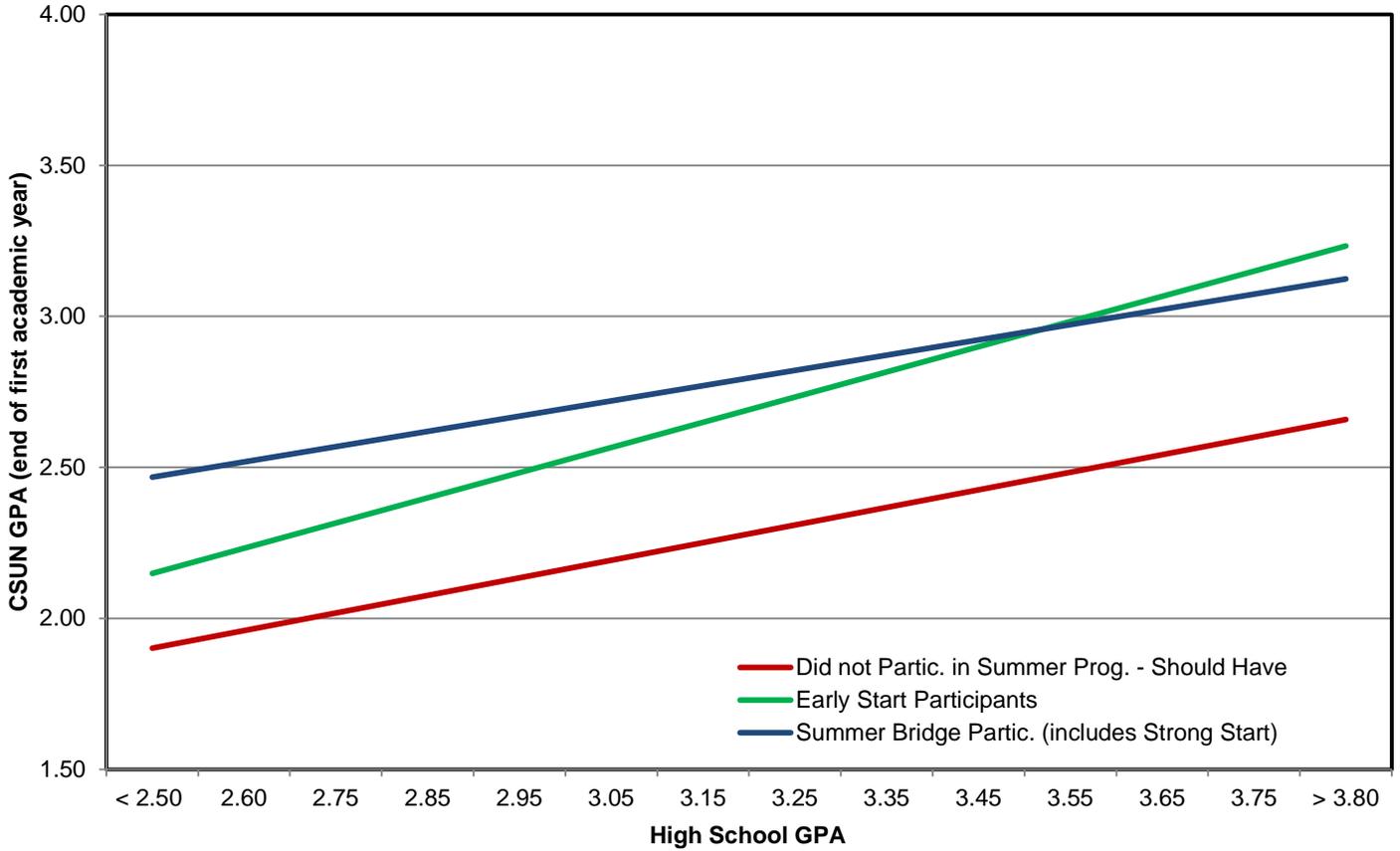


Figure 2b. CSUN GPA at End of the First Academic Year by High School GPA and Participation in Summer 2012 Enrichment Programs

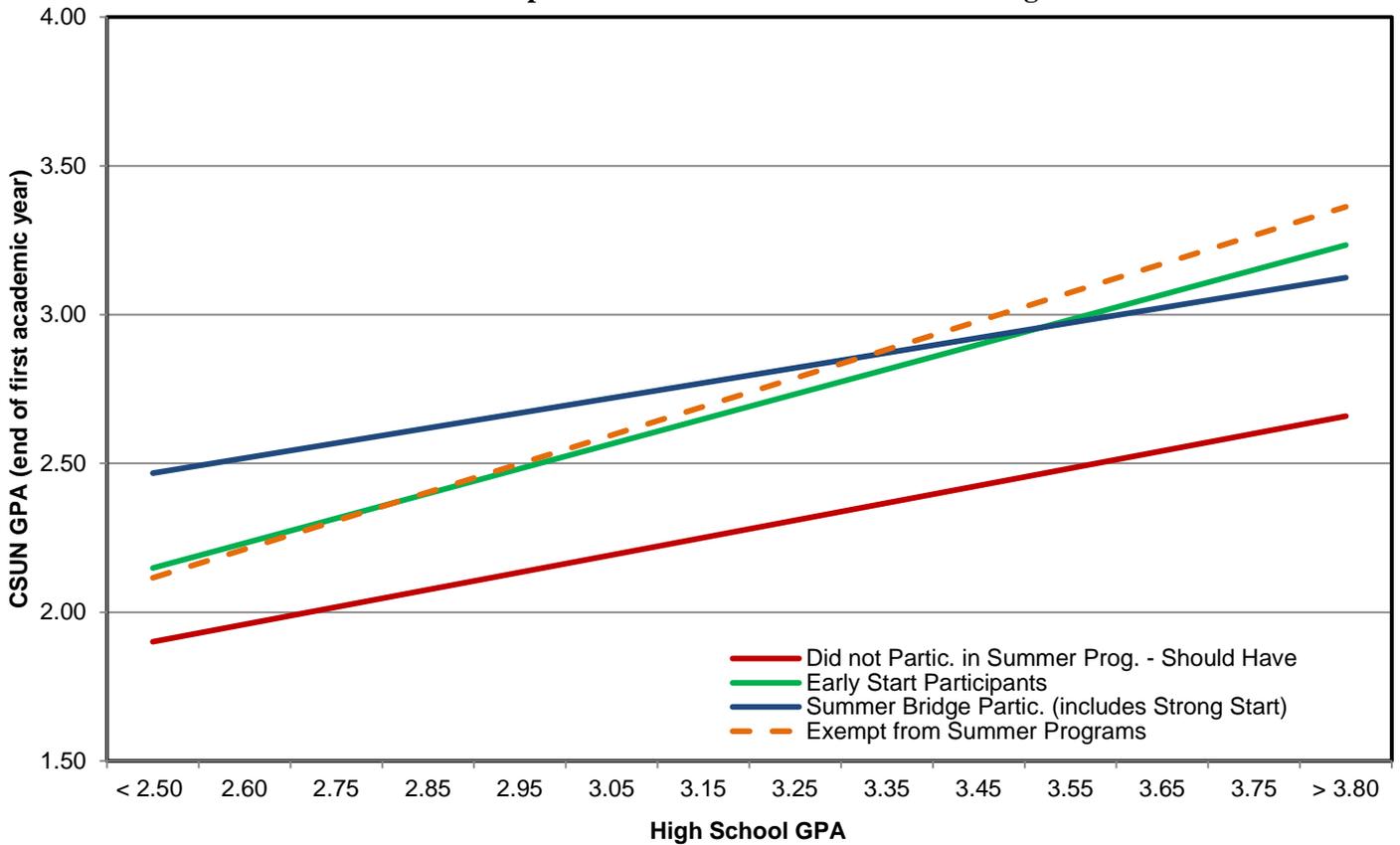


Figure 3a. Percent in Good Standing at End of First Academic Year by High School GPA and Participation in Summer 2012 Enrichment Programs

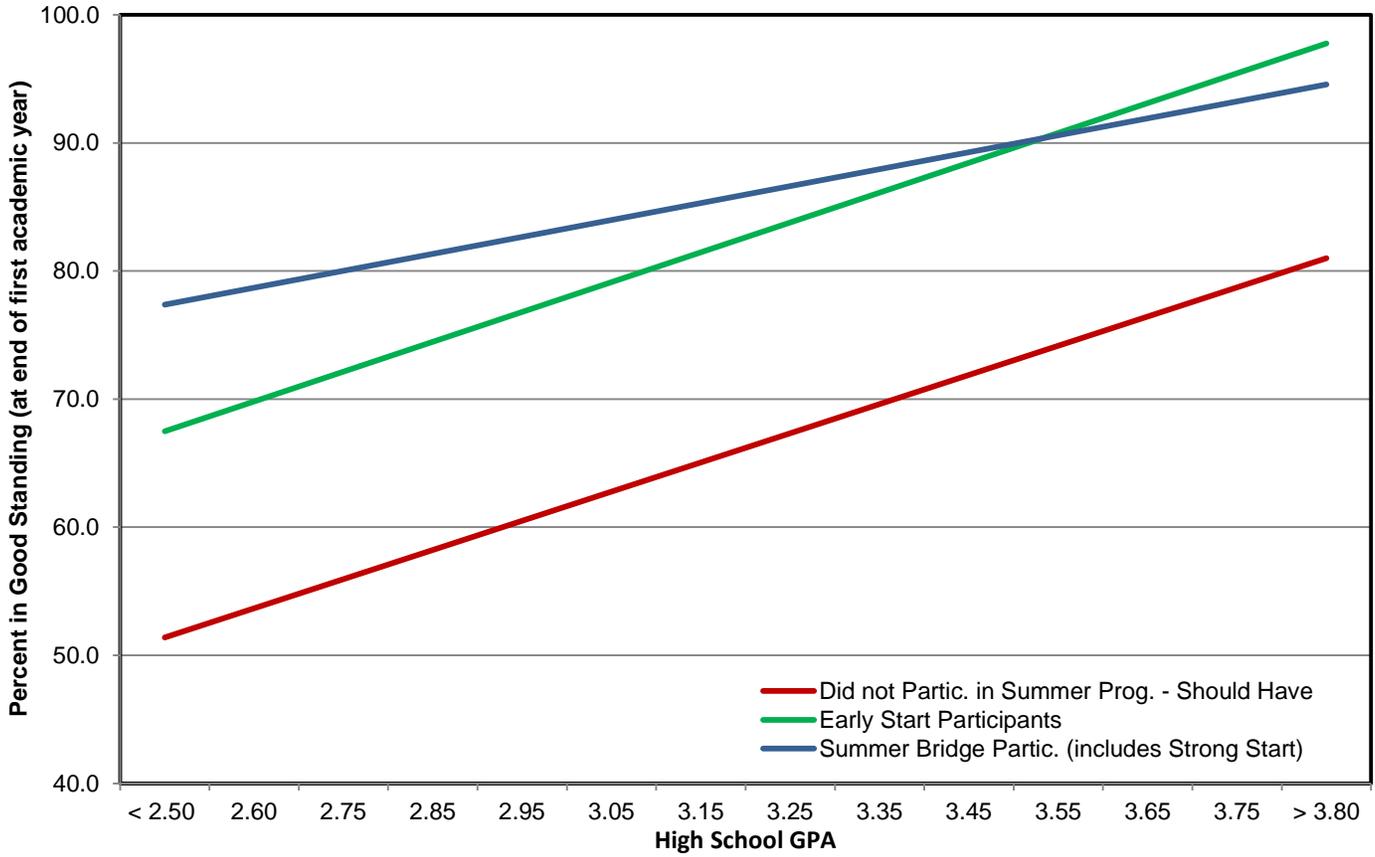


Figure 3b. Percent in Good Standing at End of First Academic Year by High School GPA and Participation in Summer 2012 Enrichment Programs

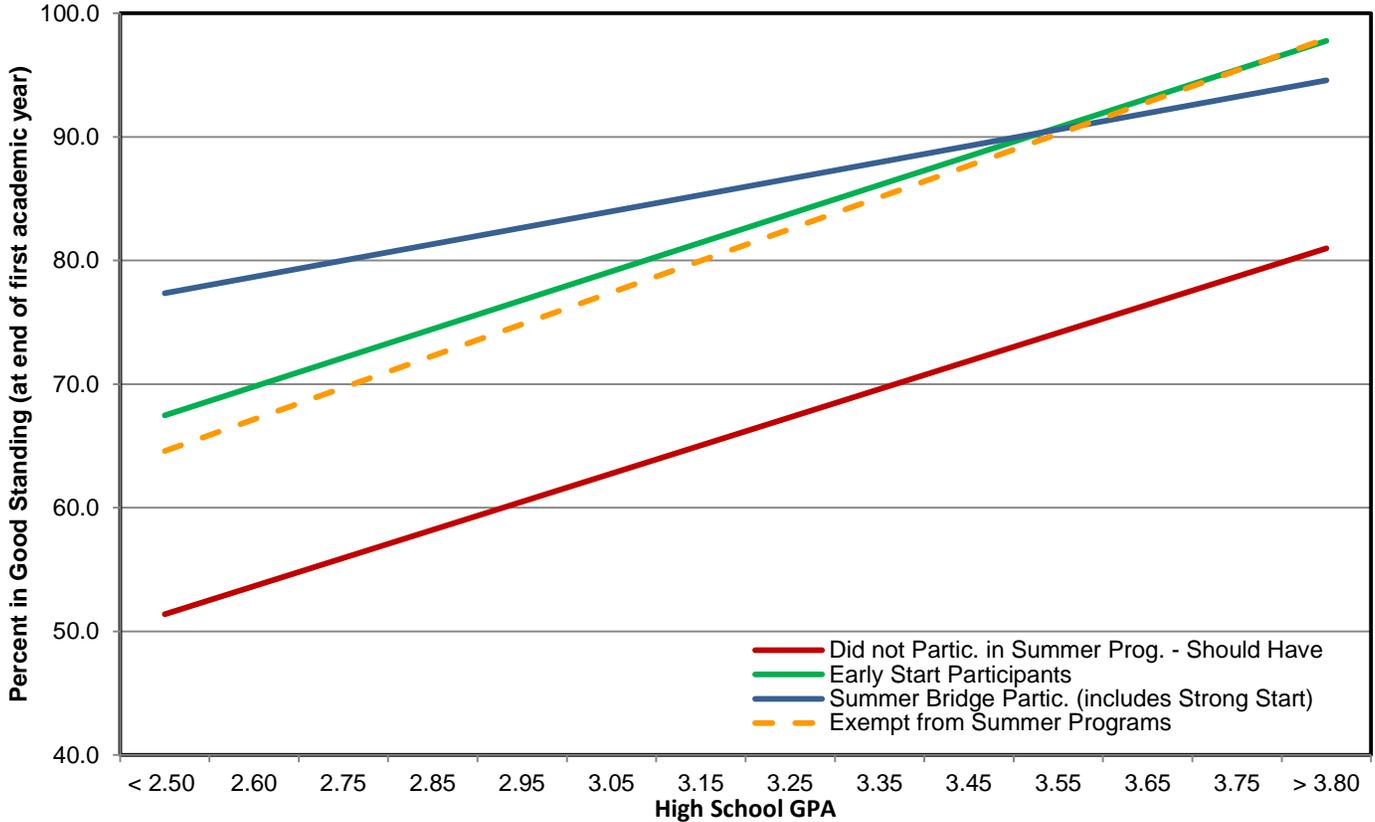


Figure 4a. One-Year Continuation Rate by High School GPA and Participation in Summer 2012 Enrichment Programs

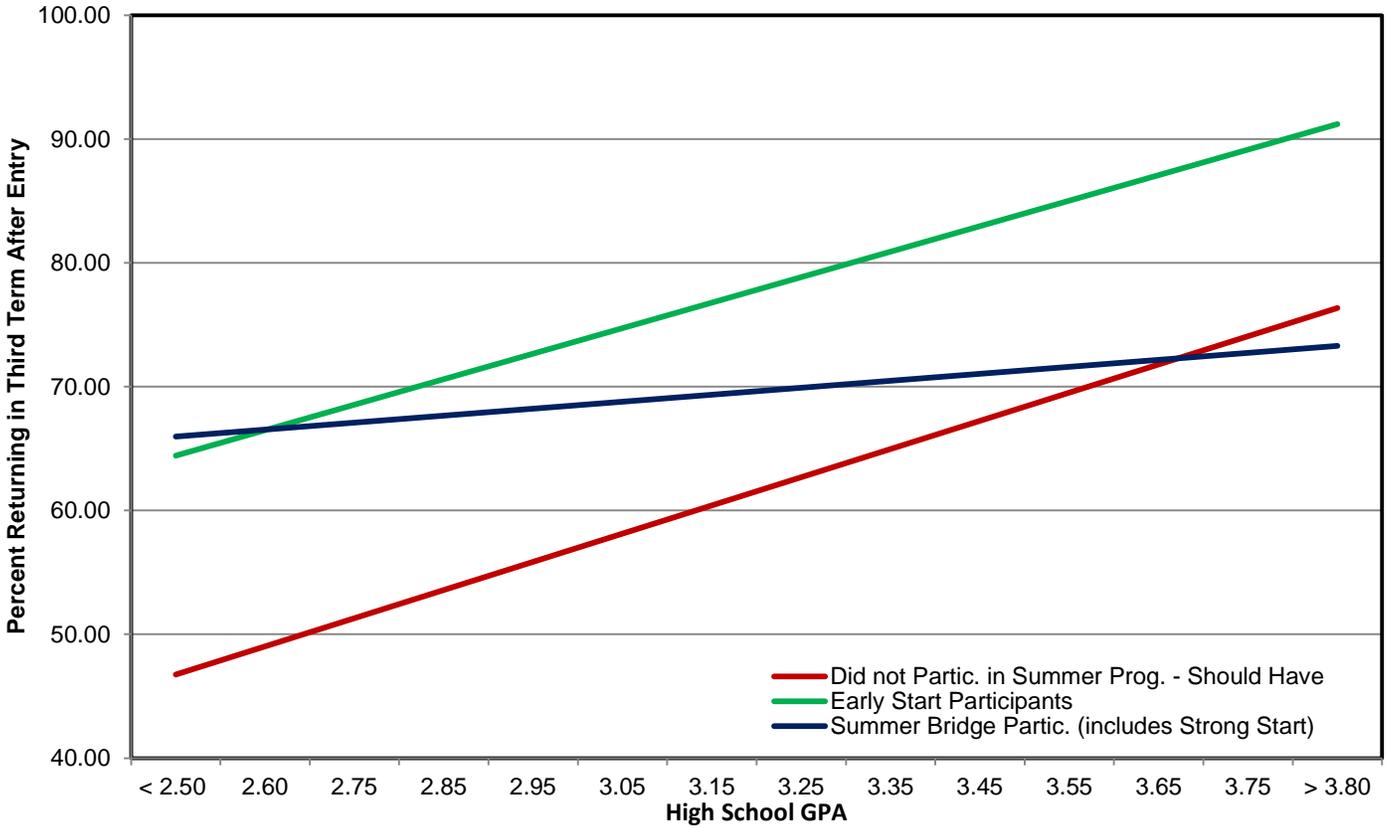


Figure 4b. One-Year Continuation Rate by High School GPA and Participation in Summer 2012 Enrichment Programs

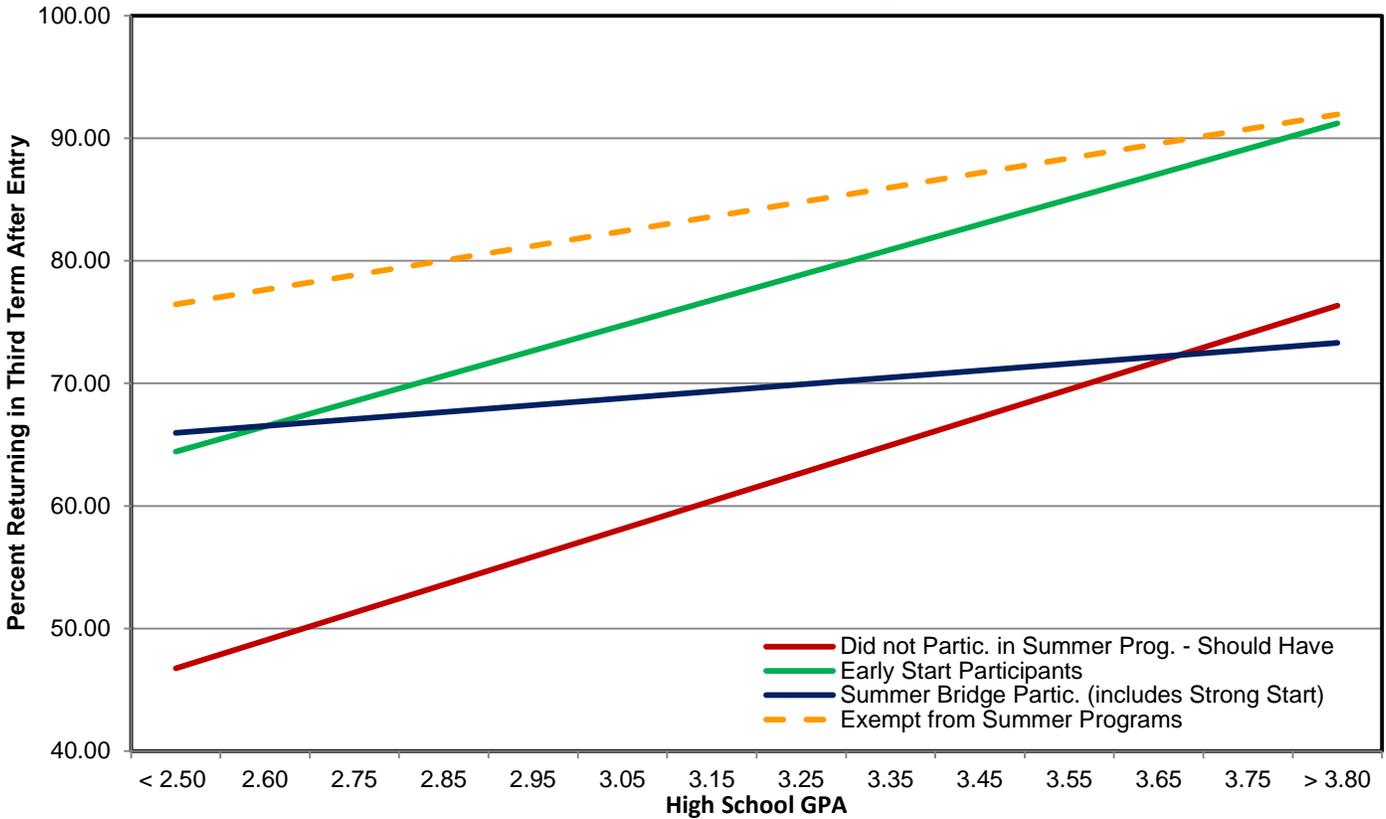


Figure 5a. CSUN GPA at End of First Academic Year by High School GPA and Type of Early Start Program

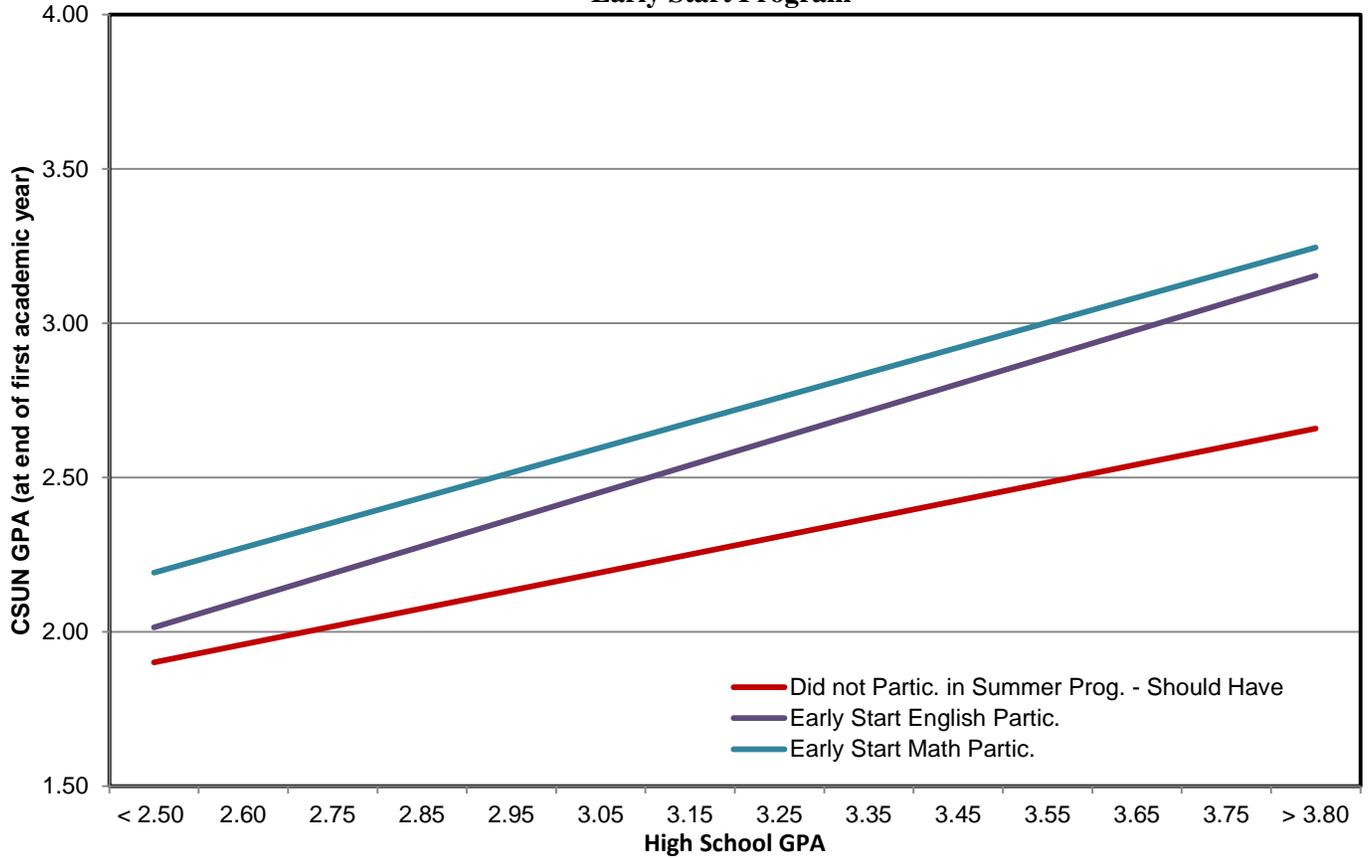


Figure 5b. CSUN GPA at End of First Academic Year by High School GPA and Participation in Early Start Programs

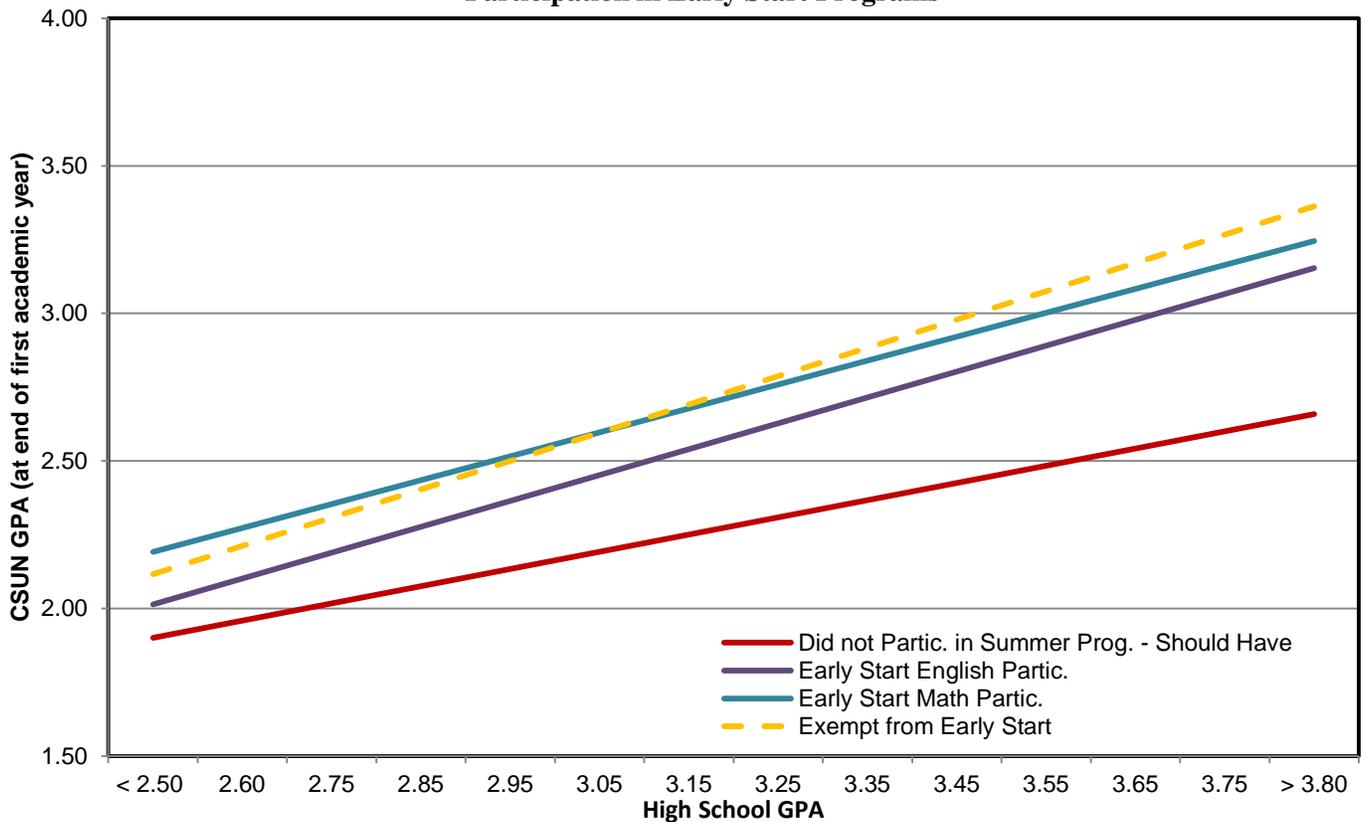


Figure 6a. One-Year Continuation Rate by High School GPA and Participation in Early Start Programs

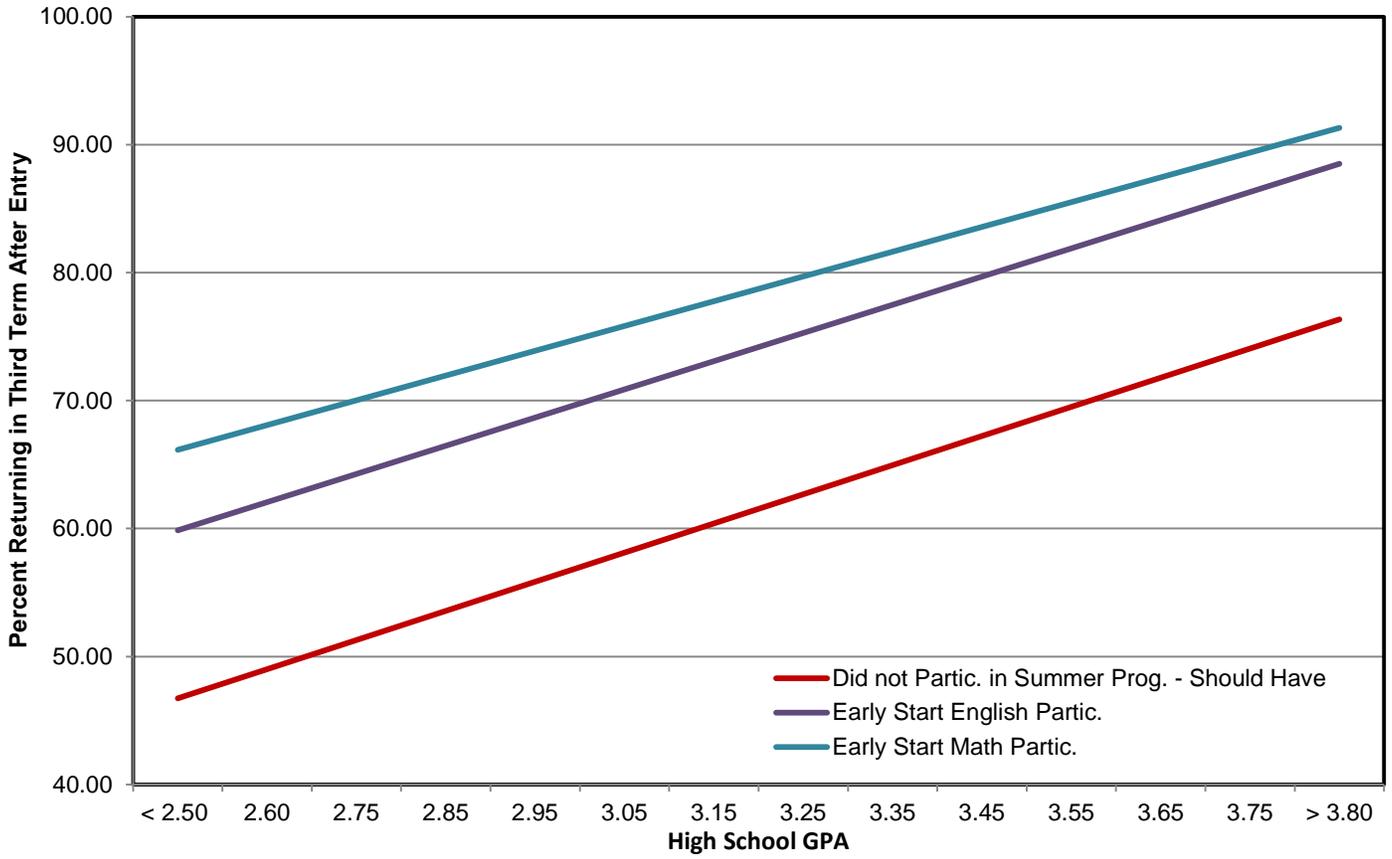


Figure 6b. One-Year Continuation Rate by High School GPA and Participation in Early Start Programs

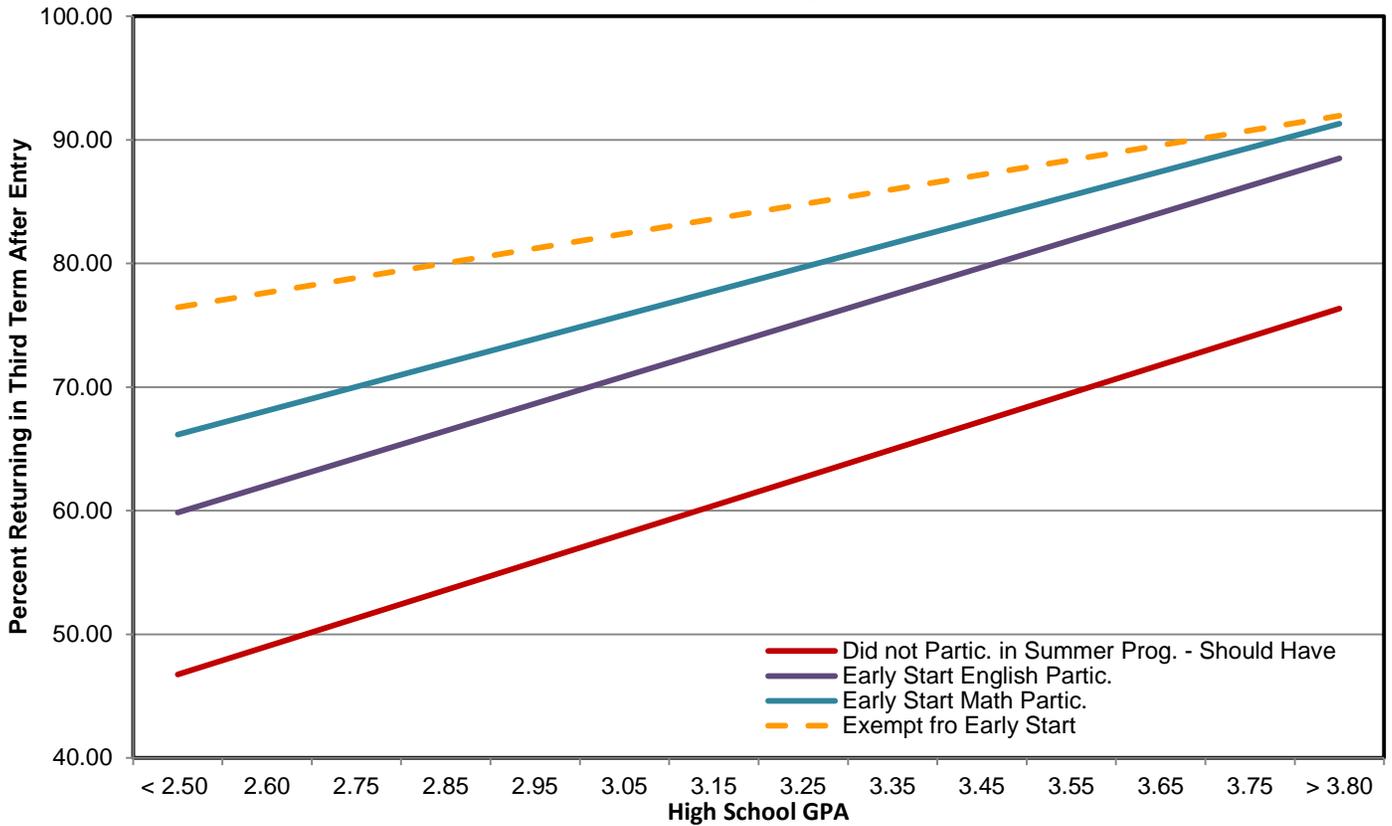


Figure 7a. Cumulative Units Earned by High School GPA of Freshmen Entering CSUN in Fall 2012 and Proficiency in Summer Before Entry

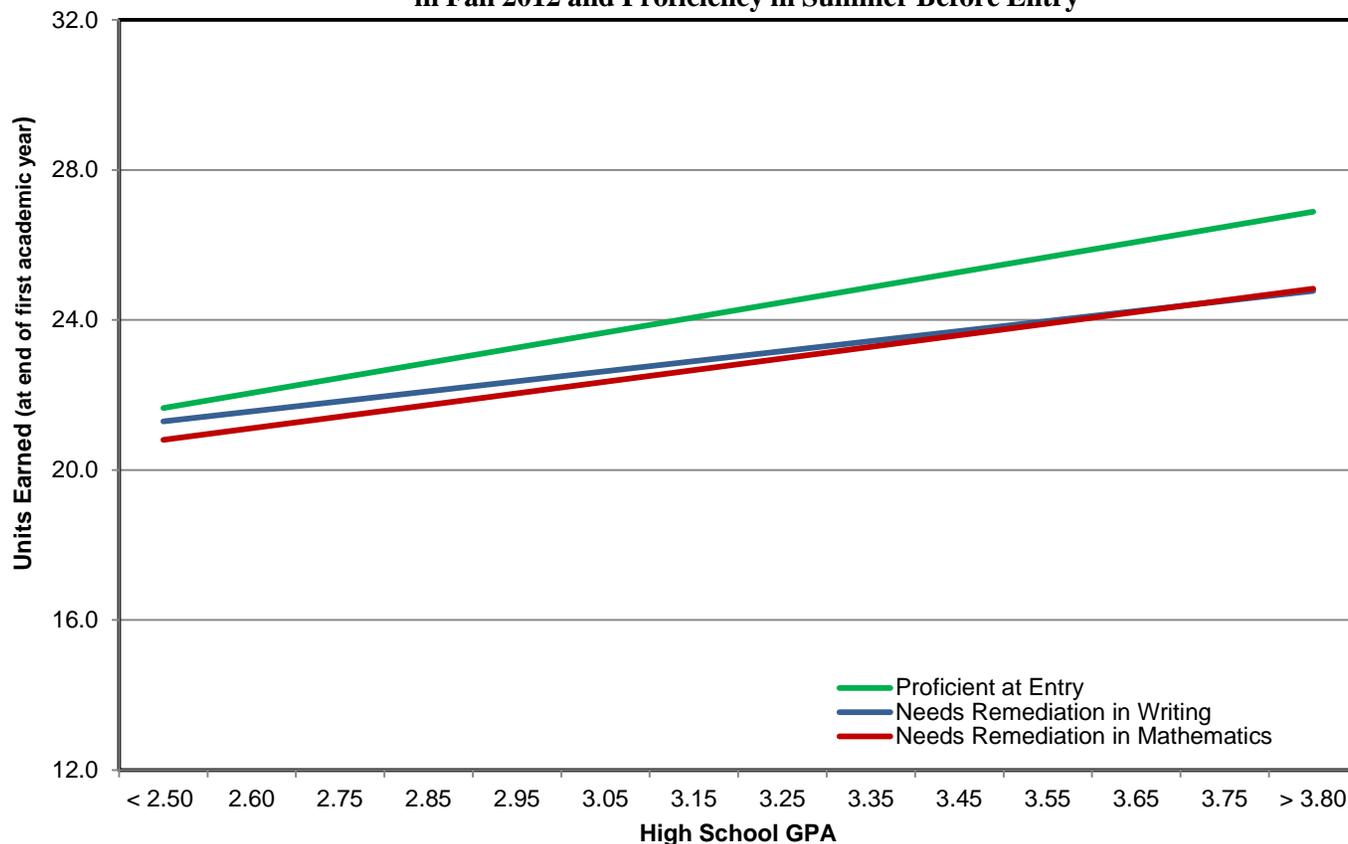


Figure 7b. Cumulative Units Earned by High School GPA of Freshmen Entering CSUN in Fall 2011 and Proficiency in Summer Before Entry

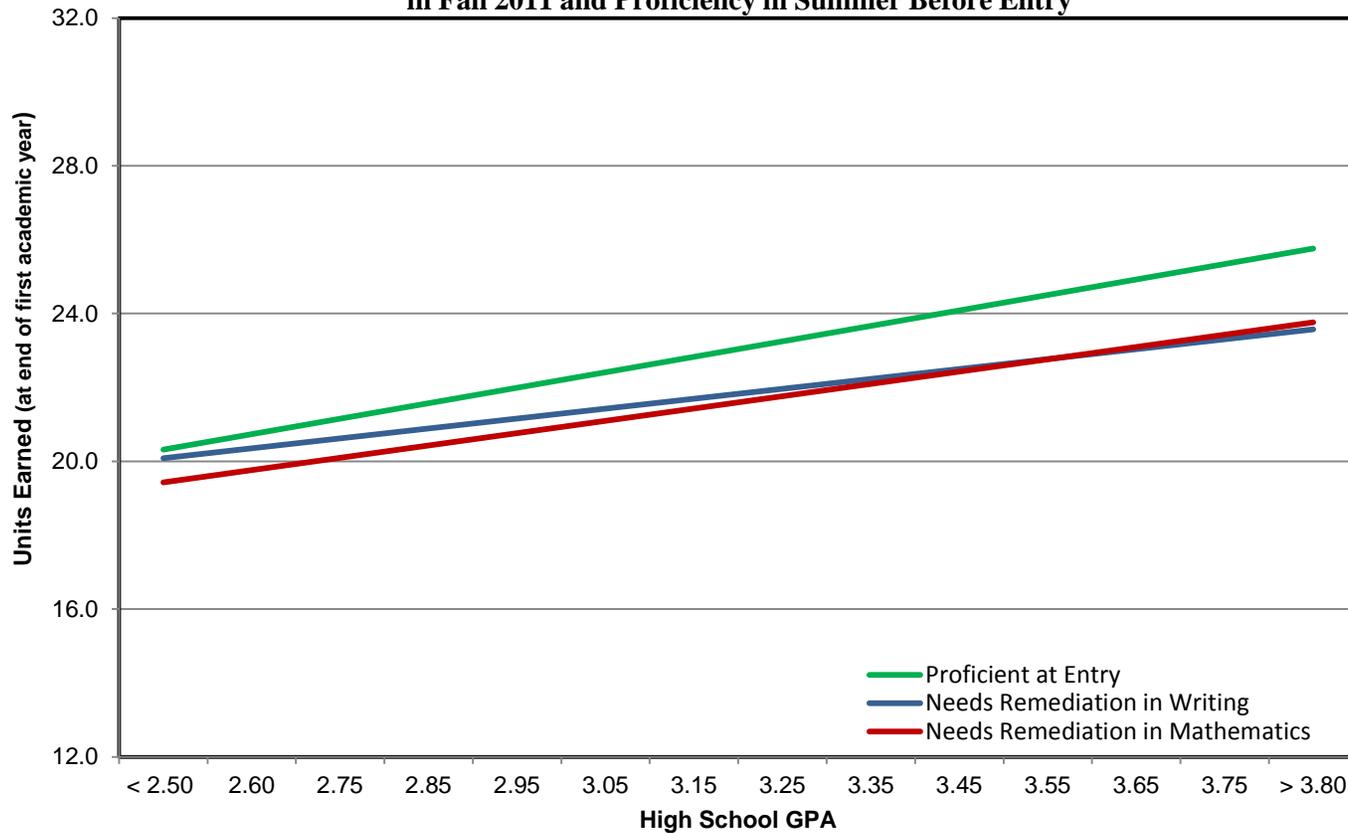


Figure 7c. Cumulative Units Earned by High School GPA and Entry Term of Entering Freshmen Needing Remediation in Mathematics in Summer Before Entry

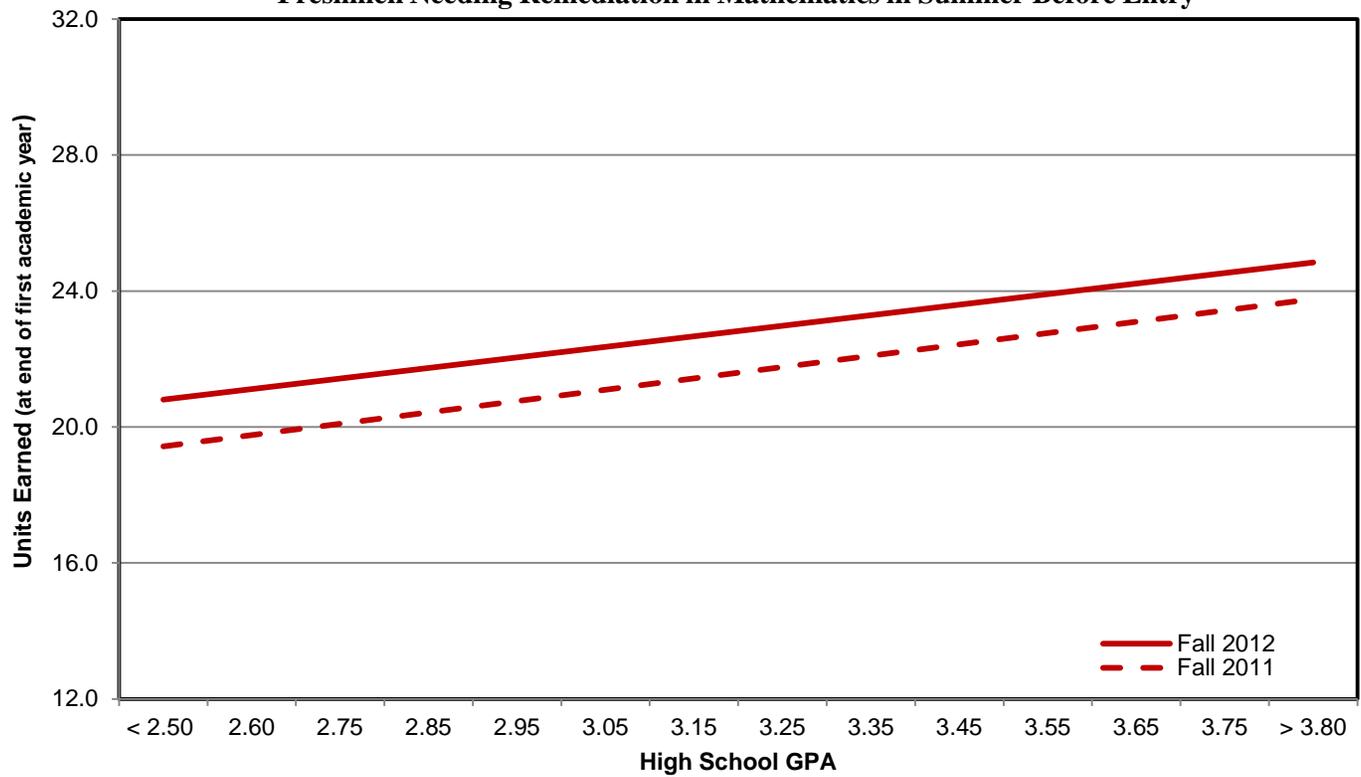


Figure 8a. CSUN GPA at End of First Academic Year by High School GPA of Freshmen Entering CSUN in Fall 2012 and Their Proficiency in Summer Before Entry

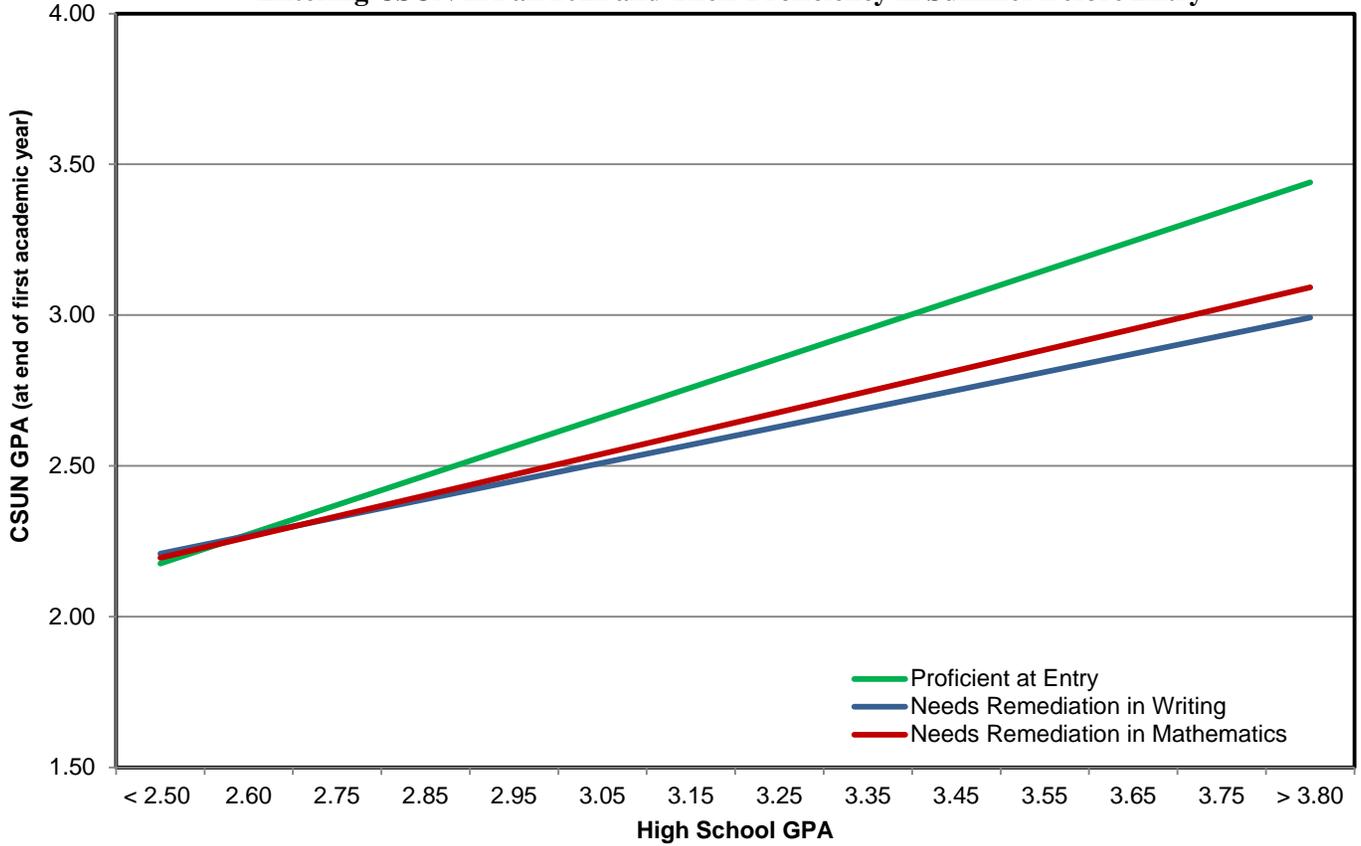


Figure 8b. CSUN GPA at End of First Academic Year by High School GPA of Freshmen Entering CSUN in Fall 2011 and Their Proficiency in Summer Before Entry

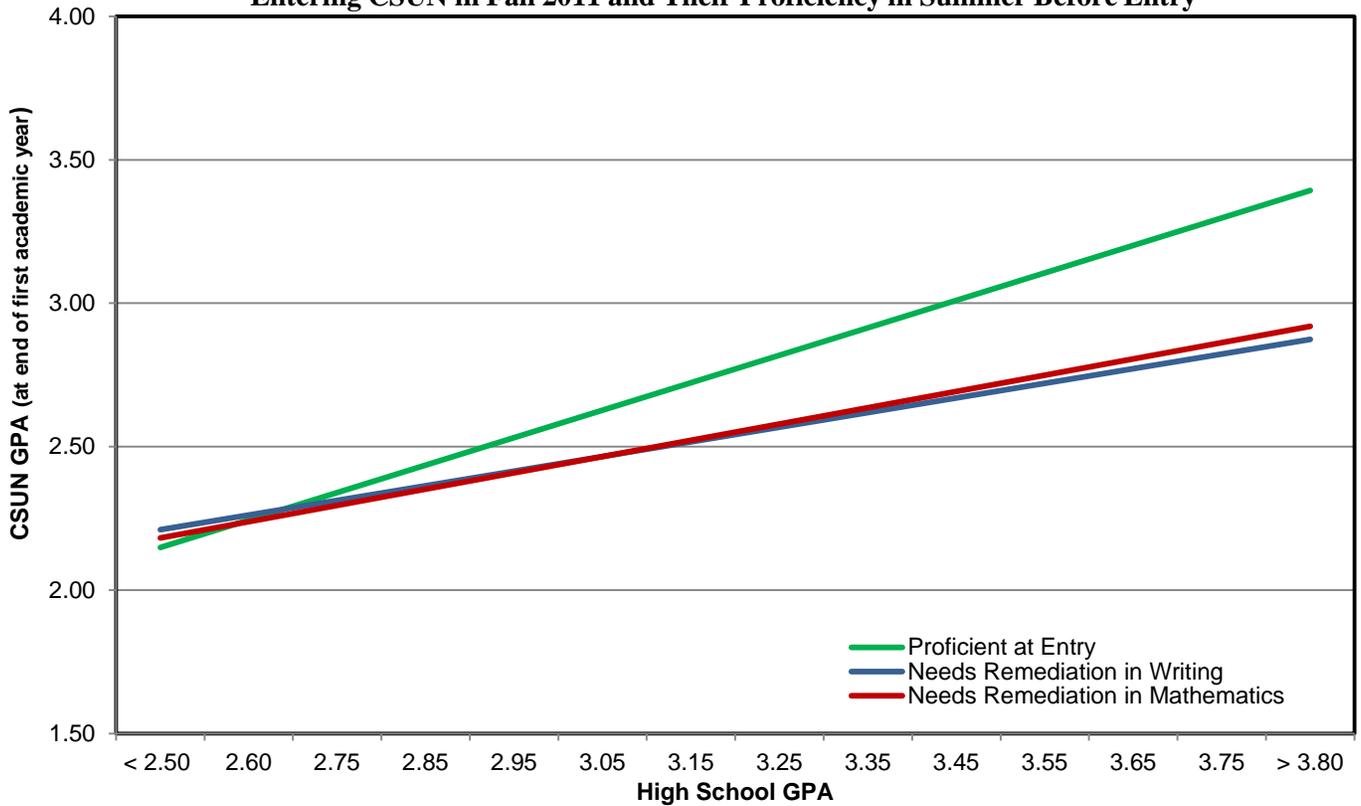


Figure 8c. CSUN GPA at End of First Academic Year by High School GPA and Entry Term of Freshmen Needing Remediation in Mathematics in the Summer Before Entry

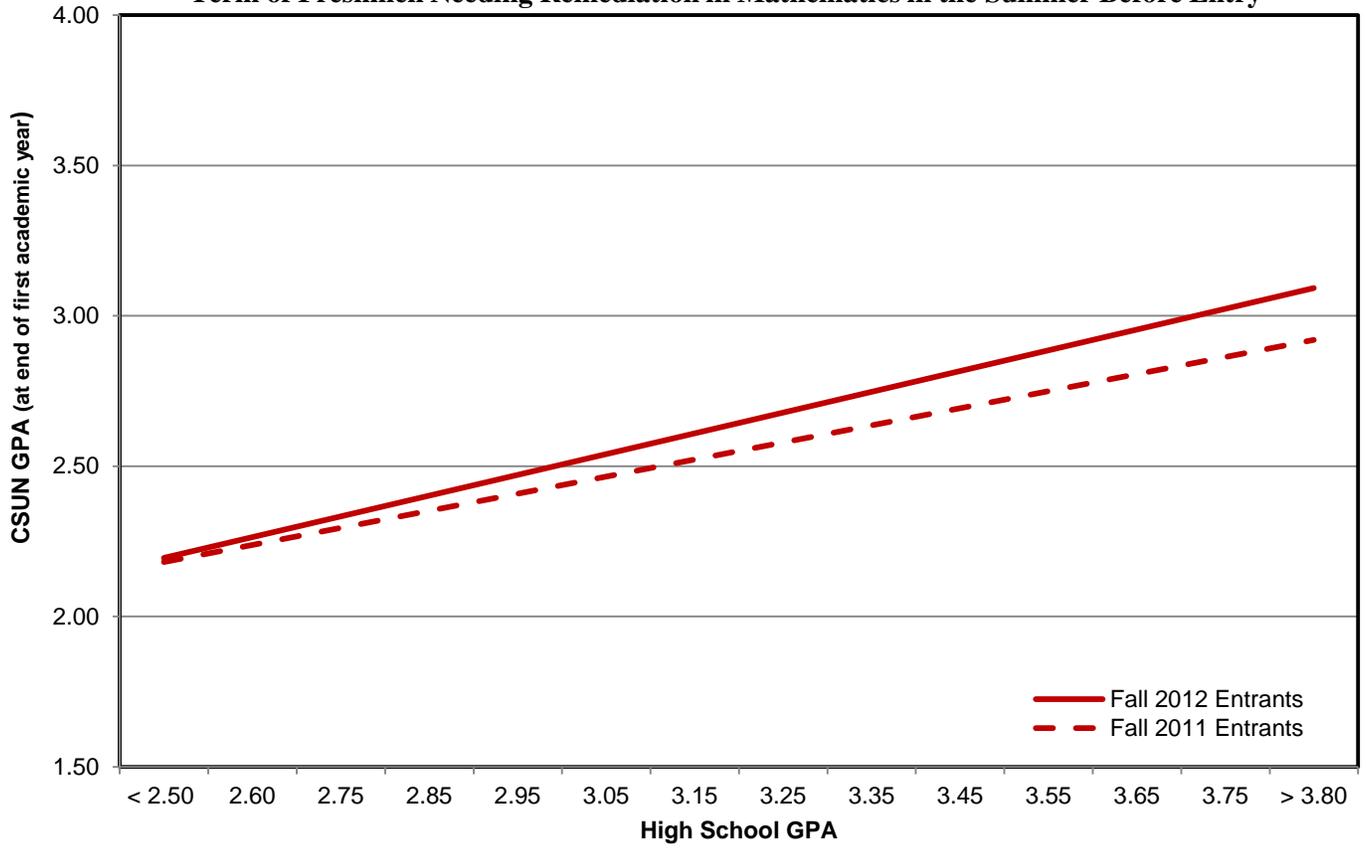


Figure 9a. Percent in Good Standing at End of First Academic Year by High School GPA of Freshmen Entering CSUN in Fall 2012 and Proficiency in Summer Before Entry

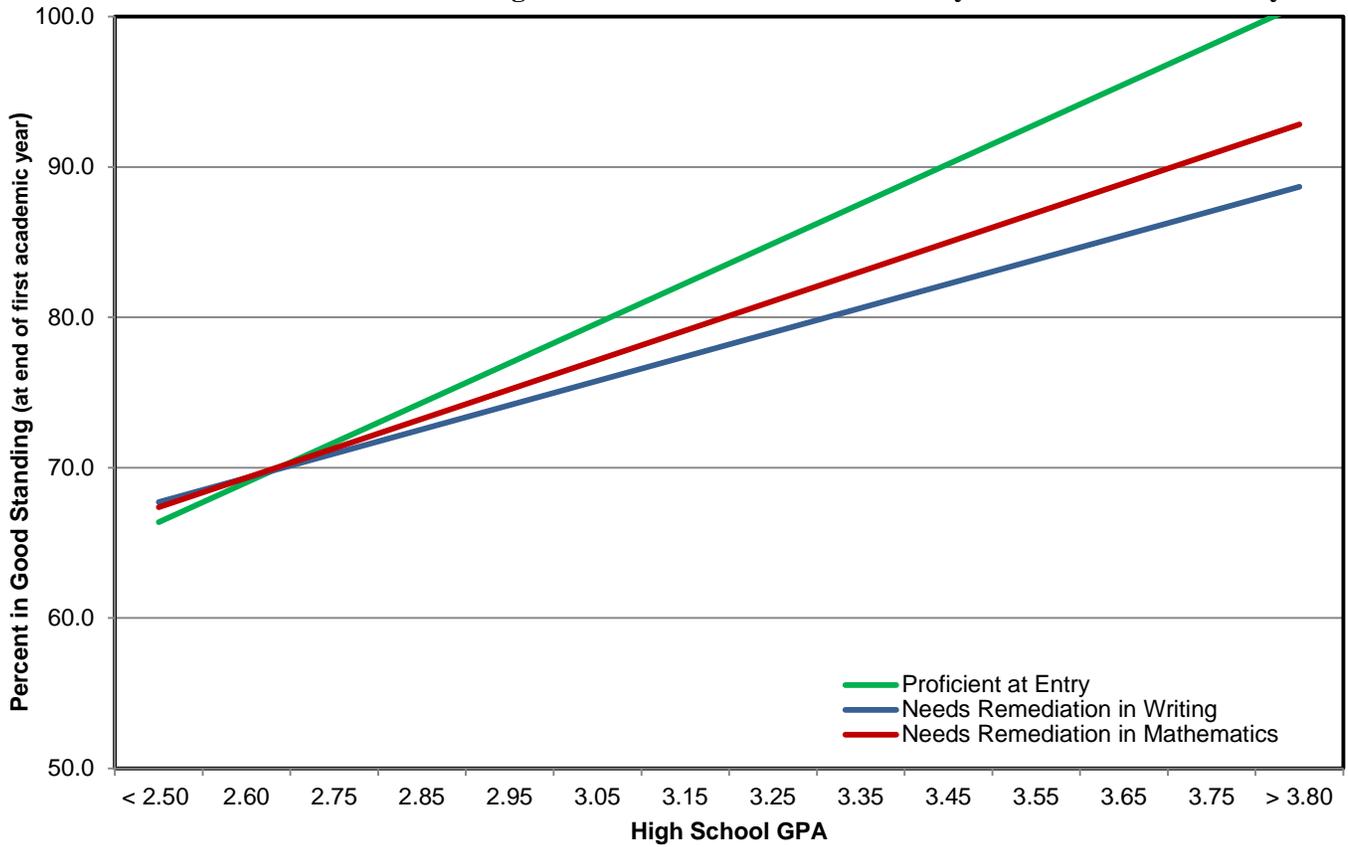


Figure 9b. Percent in Good Standing at End of First Academic Year by High School GPA of Freshmen Entering CSUN in Fall 2011 and Proficiency in Summer Before Entry

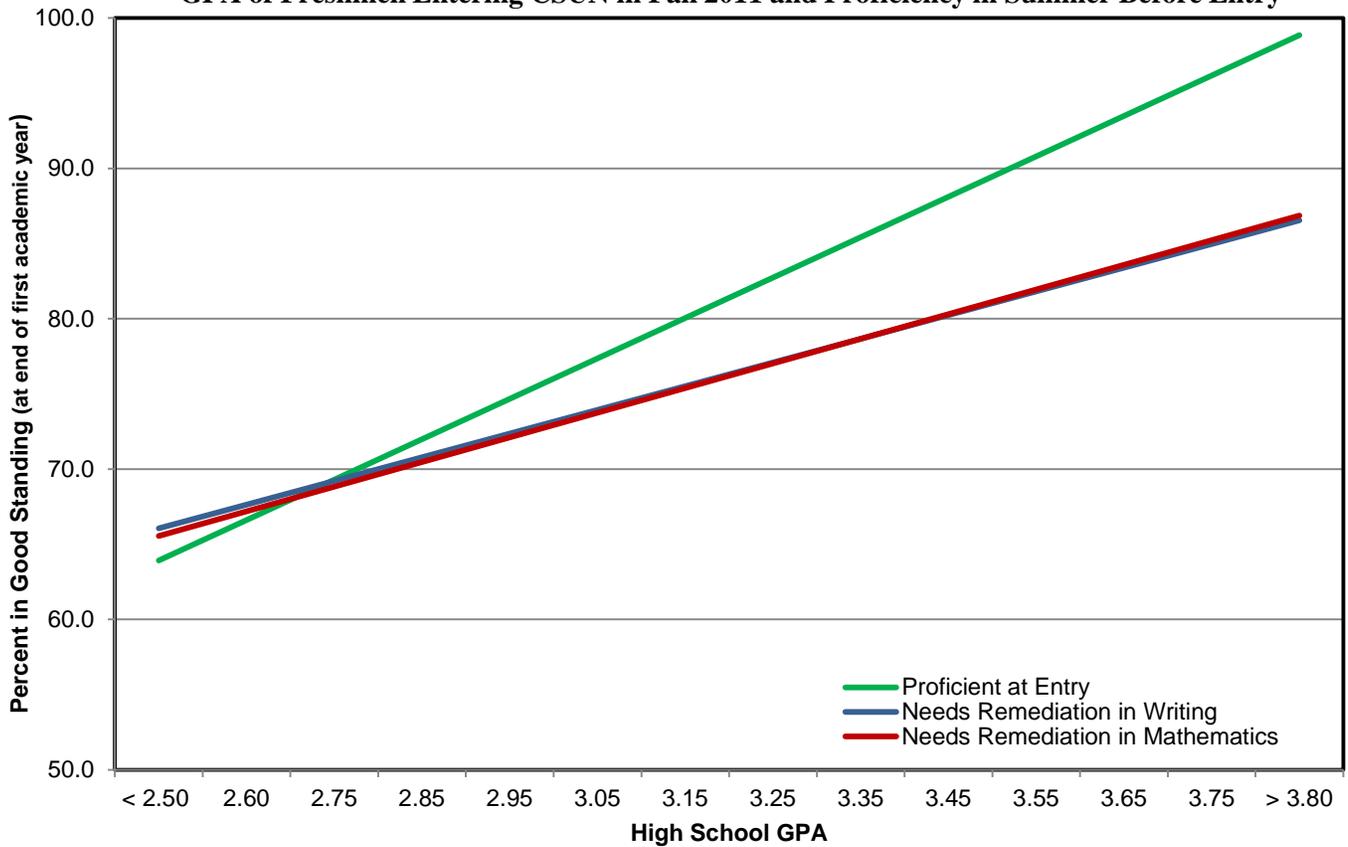


Figure 9c. Percent in Good Standing at End of First Academic Year by High School GPA and Entry Term of Freshmen Needing Remediation in Mathematics in Summer Before Entry

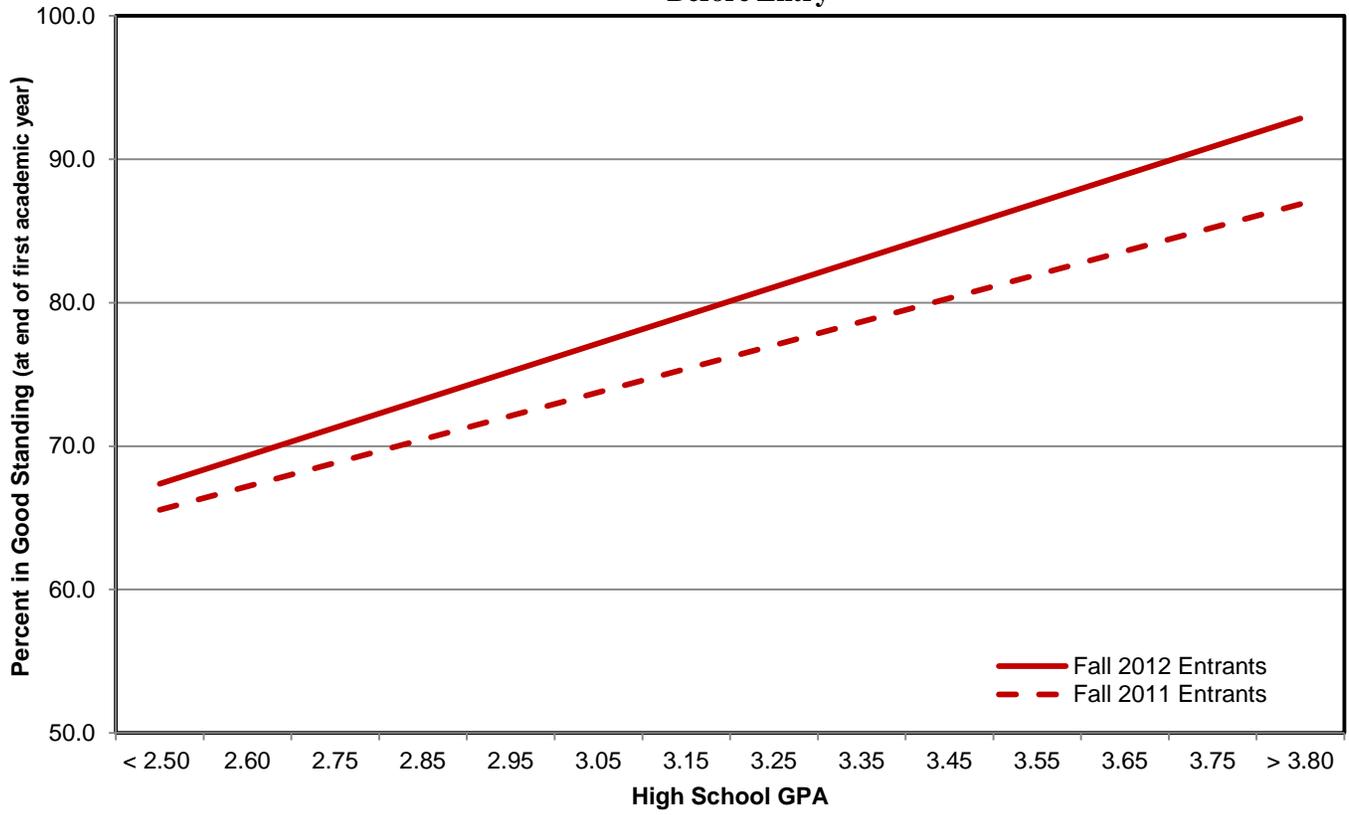


Figure 10a. One-Year Continuation Rate by High School GPA of Freshmen Entering CSUN in Fall 2012 and Proficiency in Summer Before Entry

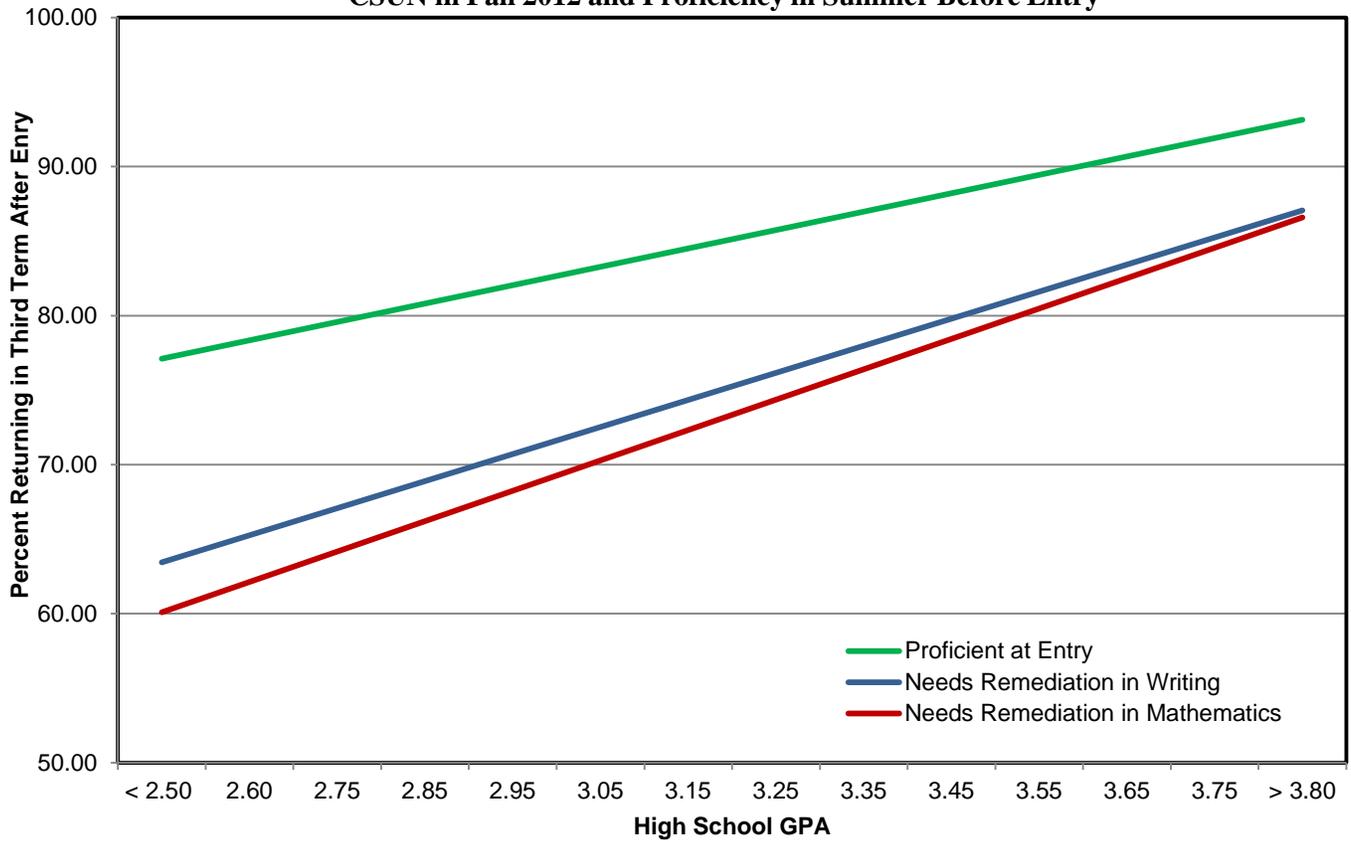


Figure 10b. One-Year Continuation Rate by High School GPA of Freshmen Entering CSUN in Fall 2011 and Proficiency in Summer Before Entry

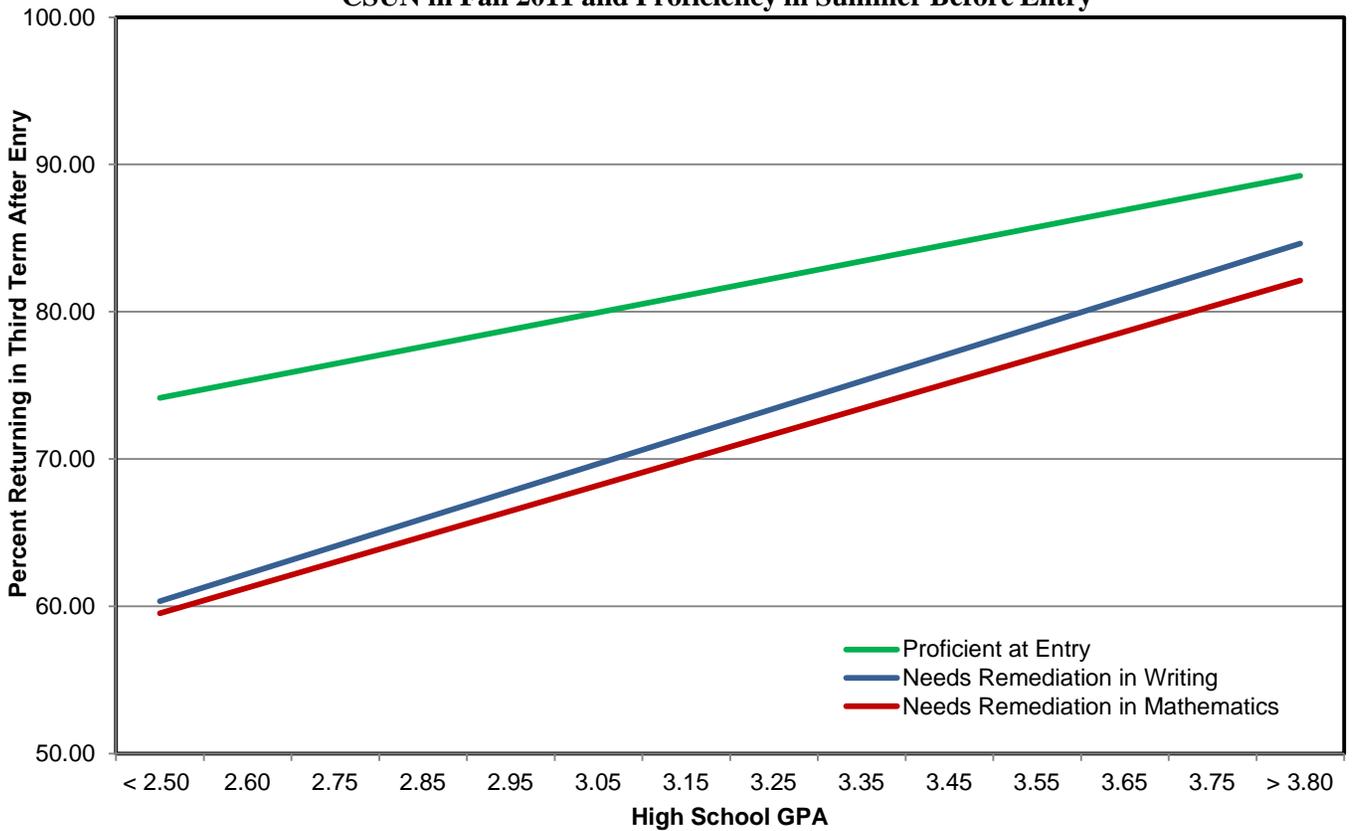


Figure 10c. One-Year Continuation Rate of Freshmen Needing Remediation in Mathematics in Summer Before Entry by High School GPA and Entry Term

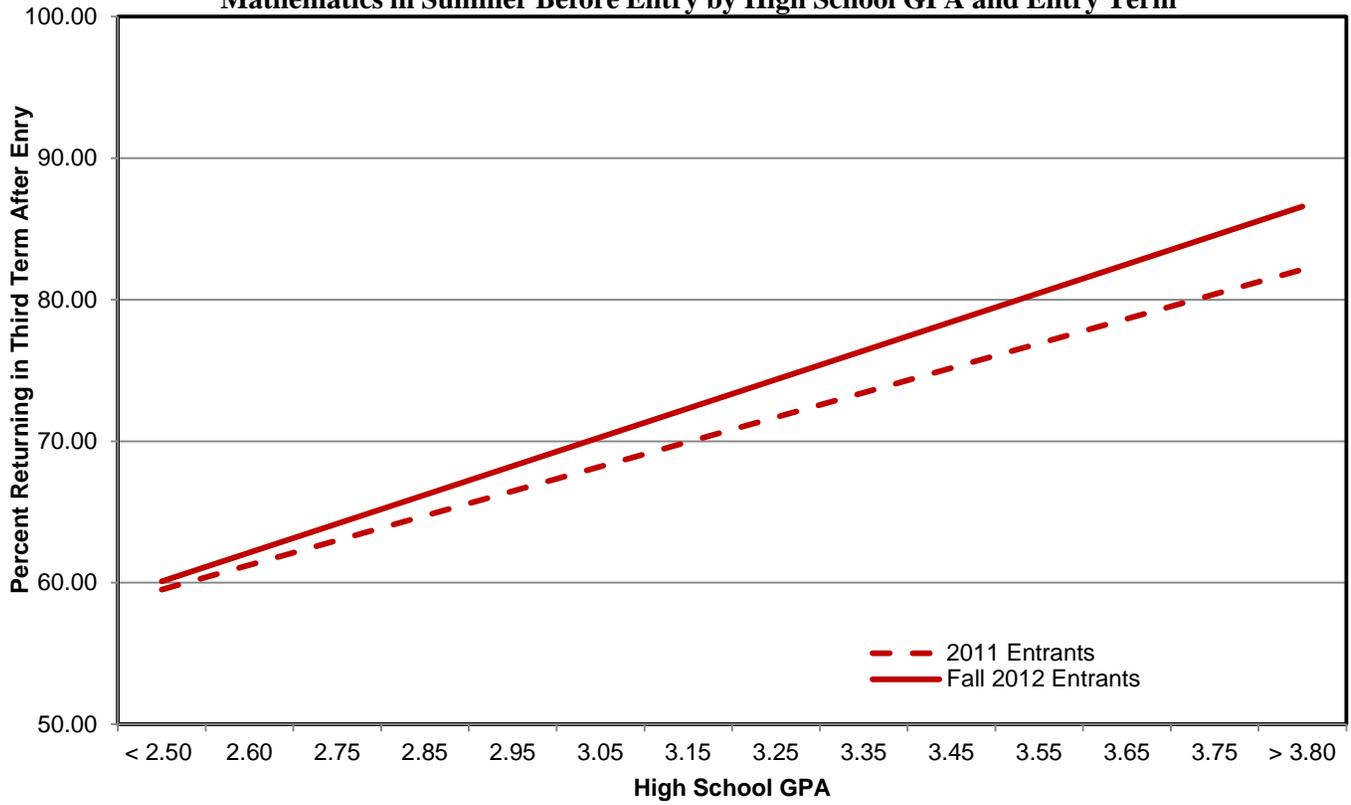


Figure 11a. CSUN GPA at End of First Academic Year of First Time Freshmen Entering CSUN in Fall 2012 and Needing Remediation in Summer Before Entry by High School GPA and Racial and Ethnic Background

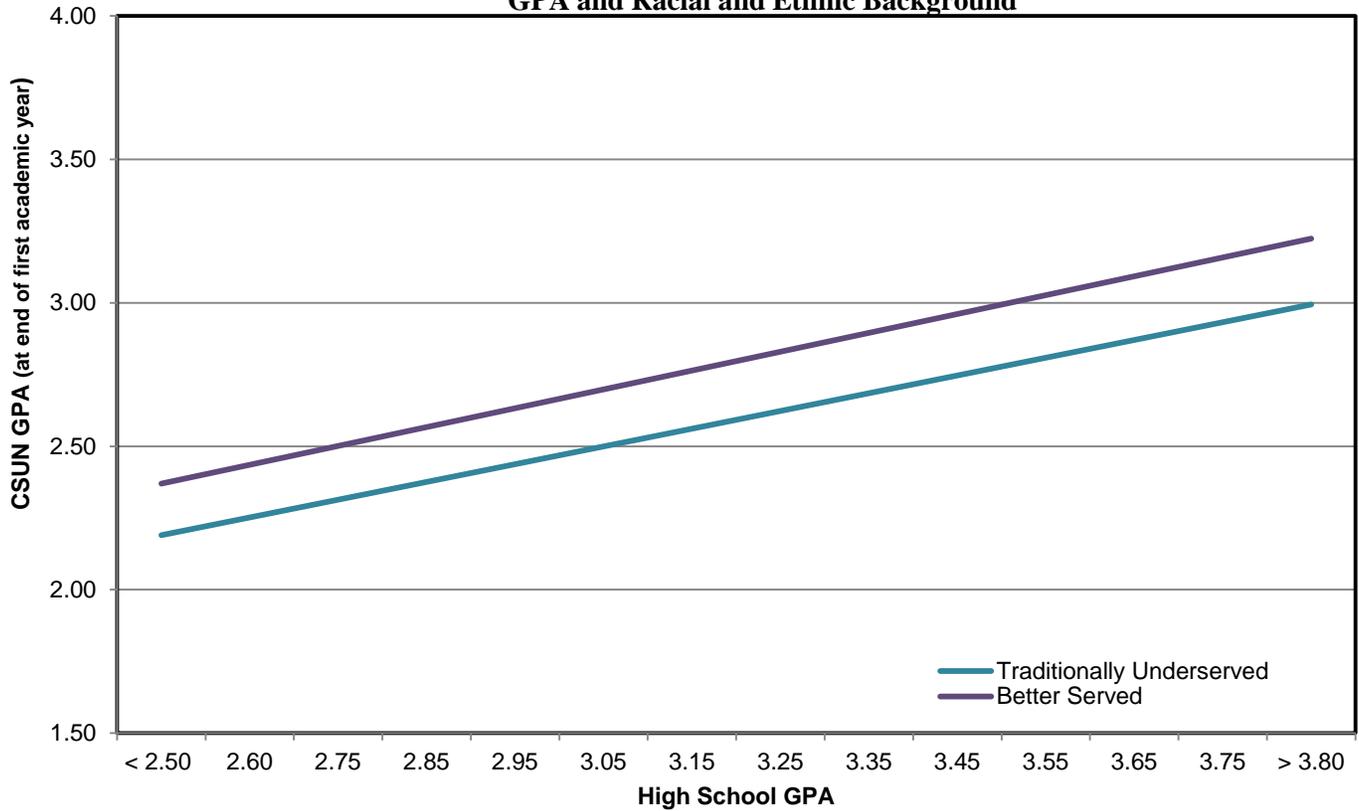


Figure 11b. CSUN GPA at End of First Academic Year of First Time Freshmen Entering CSUN in Fall 2011 and Needing Remediation in Summer Before Entry by High School GPA and Racial and Ethnic Background

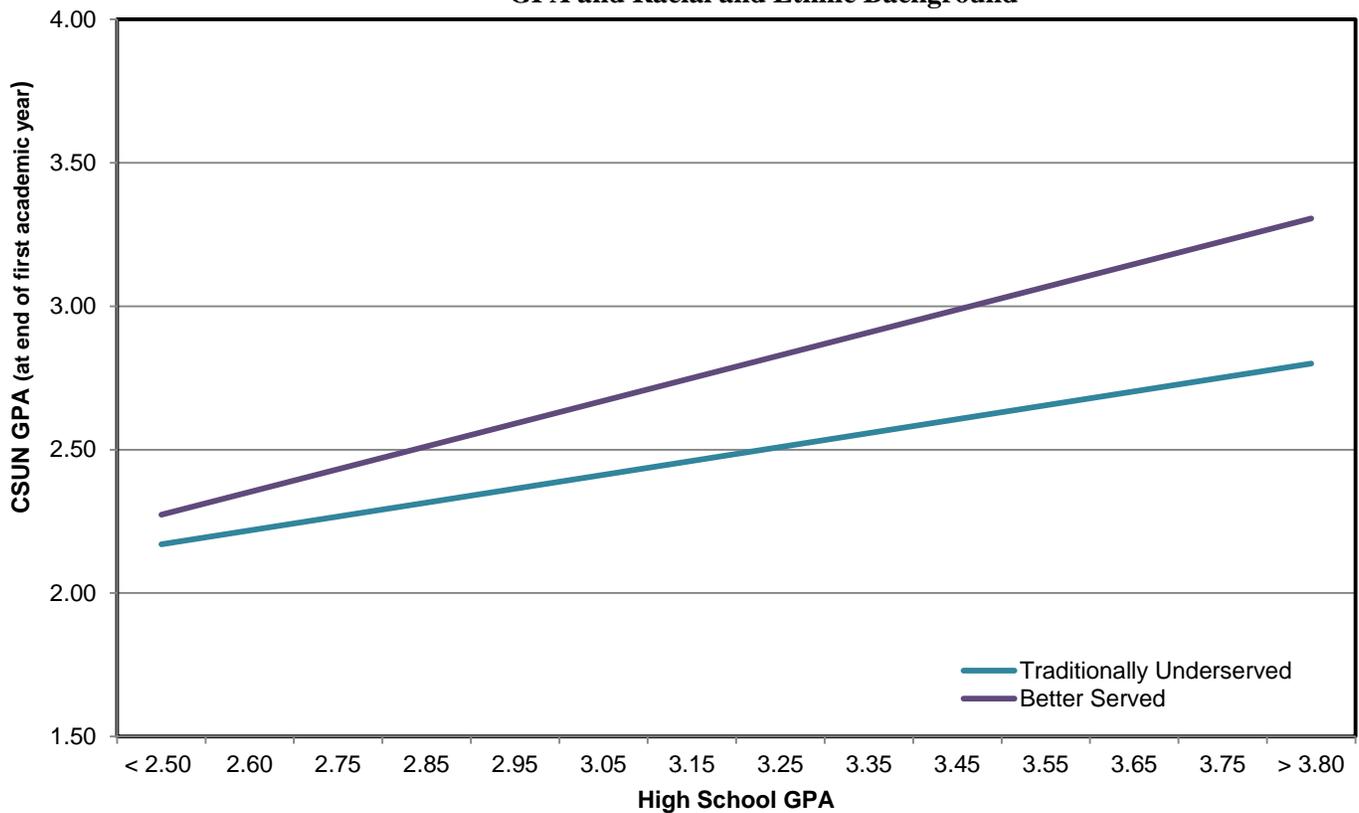


Figure 12a. One-Year Continuation Rate of First Time Freshmen Entering CSUN in Fall 2012 and Needing Remediation in Summer Before Entry by High School GPA and Racial and Ethnic Background

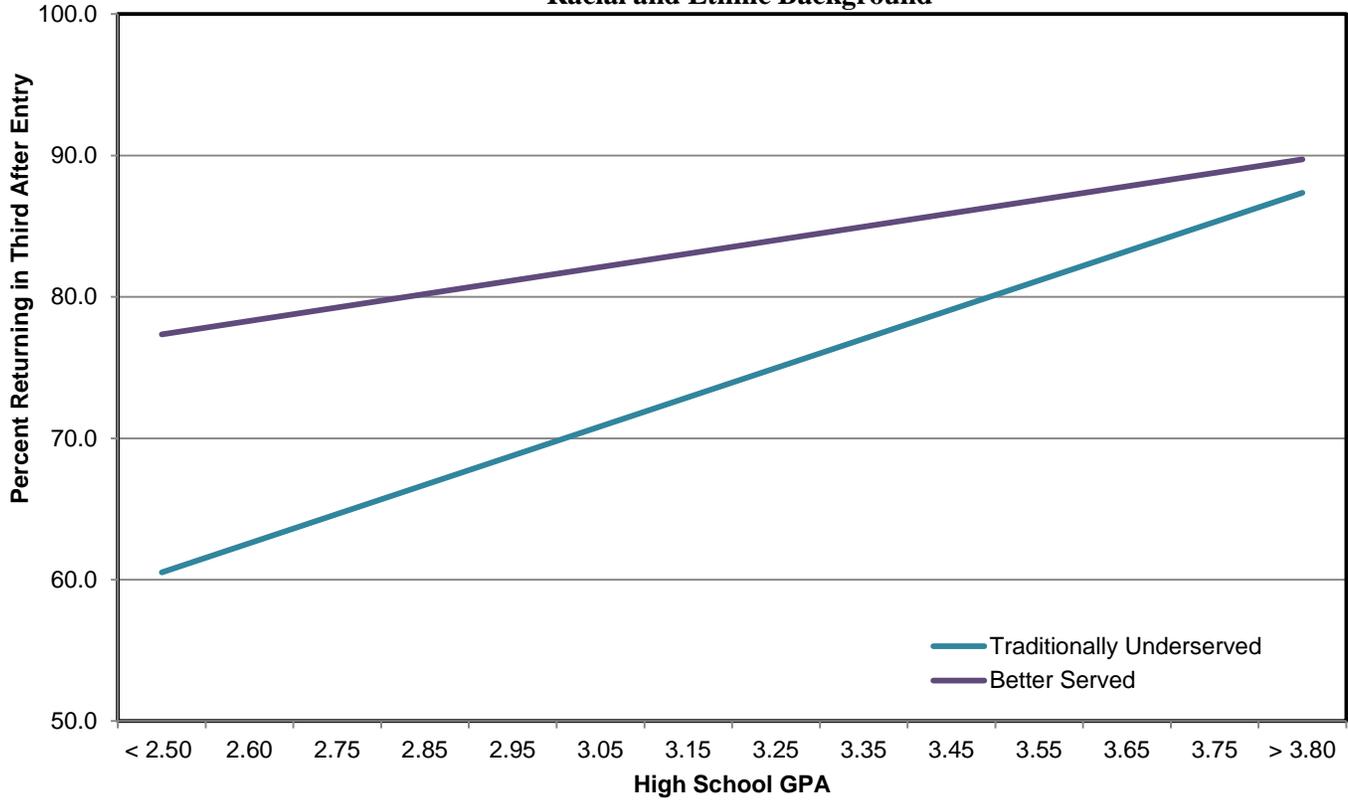
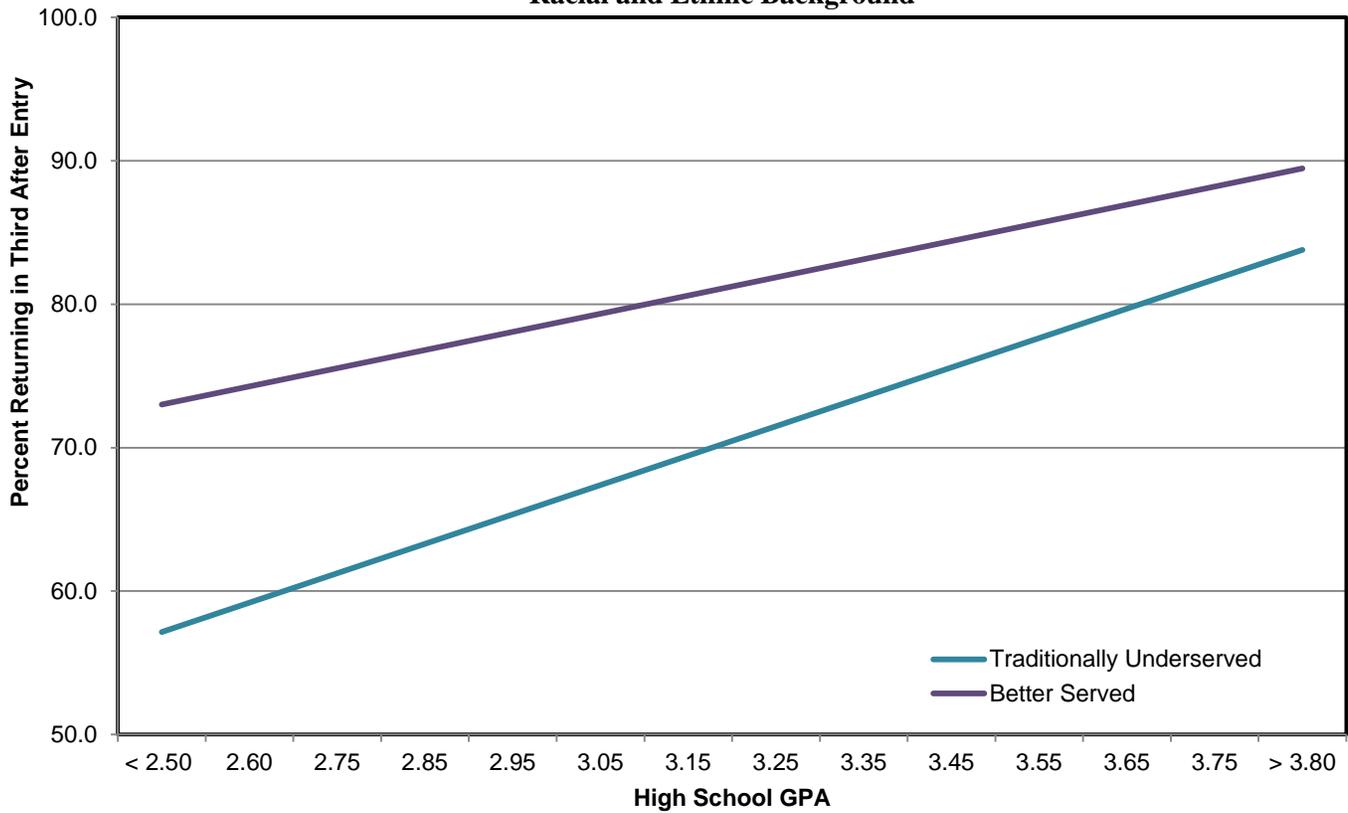


Figure 12b. One-Year Continuation Rate of First Time Freshmen Entering CSUN in Fall 2011 and Needing Remediation in Summer Before Entry by High School GPA and Racial and Ethnic Background



**Table 1. Participation in Summer Programs by First Time Freshmen Entering CSUN
in Fall 2012 or Fall 2011**

	Fall 2012 Totals		Fall 2011 Totals	
	Percent	Numbers	Percent	Numbers
Intensive Summer Programs				
EOP Summer Programs	9.7	402	5.4	286
<i>Campus Bridge programs</i>	7.4	305	5.4	286
<i>Fresh Start</i>	2.3	97		<i>unknown</i>
CSUN Strong Start	0.7	29	0.4	23
Early Start Program				
Not available			94.1	4,960
Participated in Program in	32.0	1,329		
<i>English only</i>	3.0	123		
<i>Mathematics only</i>	20.3	843		
<i>Both subjects</i>	8.8	363		
Should have participated; did not	9.6	398		
Exempt from Summer Work	48.0	1,989		
Total	100.0	4,147	100.0	5,269

Table 2. Activities of First Time Freshmen Participating in Summer 2012 CSUN-Sponsored Enrichment Programs by Program Type

Activity	Early Start Participants	EOP Fresh Start	EOP Summer Bridge	Strong Start Participants	
Attempted University 100					
		<i>Chi square = 1760.00 (.000); df=3</i>		<i>Cramer's V=1.00</i>	
Yes	0.0	0.0	100.0	100.0	
No	100.0	100.0	0.0	0.0	
Total (No. of freshman entrants)	100.0 (1,329)	100.0 (97)	100.0 (305)	100.0 (29)	
Summer Writing Experience					
		<i>Chi square = 1100.85 (.000); df=9</i>		<i>Cramer's V=.457</i>	
None	63.4	100.0	39.0	100.0	
15 hours (one credit) - online	36.0	0.0	0.0	0.0	
30 hours (two credits) - online	0.6	0.0	0.0	0.0	
45 hours (prep for Stretch courses) - face-to-face	0.0	0.0	61.0	0.0	
Total (No. of freshman entrants)	100.0 (1,329)	100.0 (97)	100.0 (305)	100.0 (29)	
Summer Mathematics Experience					
		<i>Chi square = 1488.98 (.000); df=9</i>		<i>Cramer's V=.531</i>	
None	9.3	0.0	66.9	0.0	
15 hours (one credit) - online	89.8	100.0	0.0	0.0	
30 hours (two credits) - online	0.9	0.0	0.0	0.0	
45 hours (three credits) - face-to-face	0.0	0.0	33.1	100.0	
Total (No. of freshman entrants)	100.0 (1,329)	100.0 (97)	100.0 (305)	100.0 (29)	
Reduction in Mathematics Remediation					
		<i>Chi square = 146.09 (.000); df=6</i>		<i>Cramer's V=.204</i>	
No change in status	90.1	74.2	85.6	20.7	
Needed one course less	9.6	25.8	14.4	79.3	
<i>Further remediation required</i>		4.7	14.4	10.5	65.5
<i>Proficient</i>		4.9	11.3	3.9	13.8
Needed two fewer courses; proficient	0.3	0.0	0.0	0.0	
Total (No. of freshman entrants)	100.0 (1,329)	100.0 (97)	100.0 (305)	100.0 (29)	

Table 3. Background Characteristics of First Time Freshmen Entering CSUN in Fall 2012 by Summer Program Participation

Characteristic	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
Gender	<i>Chi square = 163.92 (.000); df=3</i>				<i>Cramer's V=.199</i>
Women	60.3	66.5	58.4	44.9	54.9
Men	39.7	33.5	41.6	55.1	45.1
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Racial and Ethnic Background	<i>Chi square = 261.10 (.000); df=3</i>				<i>Cramer's V=.258 ^^</i>
Traditionally Underserved	68.6	73.6	88.0	46.9	61.5
<i>American Indian</i>	0.0	0.1	0.0	0.1	0.1
<i>Pacific Islander</i>	0.3	0.0	0.0	0.1	0.1
<i>African American</i>	8.8	7.6	25.8	3.0	7.0
<i>Latina/o</i>	58.0	64.5	61.1	41.6	52.6
<i>Multi-race</i>	1.5	1.3	1.2	2.1	1.7
Better Served	29.4	25.5	12.0	42.7	33.0
<i>Asian</i>	10.3	7.1	8.4	14.9	11.3
<i>White</i>	12.6	15.3	1.8	22.2	17.3
<i>Multi-race (i.e., Asian & white)</i>	1.5	0.8	0.3	2.5	1.6
<i>Decline to state</i>	5.0	2.3	1.5	3.1	2.9
International	2.0	1.0	0.0	10.4	5.5
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Pell Grant Status (proxy for low income)	<i>Chi square = 401.64 (.000); df=3</i>				<i>Cramer's V=.311</i>
Pell Grant recipient	59.8	69.4	95.8	45.5	59.1
No grant received	40.2	30.7	4.2	54.6	40.9
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Percentage Traditionally Underserved Among Pell Grant Recipients	81.9 (238)	83.8 (989)	88.8 (320)	66.0 (904)	77.7 (2,451)

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

^^ These statistics compare Traditionally Underserved students with the Better Served grouping; international students are excluded.

Measures of Association with Exempt and Summer Bridge groups excluded:

Gender	<i>Chi square = 5.23 (.022); df=1</i>	<i>Cramer's V=.054</i>
Racial and Ethnic Background^^	<i>Chi square = 2.88 (.09); df=1</i>	<i>Cramer's V=.040</i>
Pell Grant Status	<i>Chi square = 12.91 (.000); df=1</i>	<i>Cramer's V=.084</i>

Table 4. Preparation of First Time Freshmen Entering CSUN in Fall 2012 by Summer Program Participation

	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
High School GPA				<i>F = 138.25 (.000); Eta=.303</i>	
2.75 or less	19.4	15.0	46.7	13.4	17.2
2.76 - 3.00	31.2	29.1	25.2	19.8	24.6
3.01 - 3.25	22.1	23.5	12.3	17.6	19.6
3.26 - 3.50	12.8	16.6	11.1	21.3	18.1
3.51 - 3.75	9.8	10.3	3.9	15.1	12.0
3.76 or higher	4.8	5.6	0.9	12.8	8.5
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,424)	100.0 (334)	100.0 (1,964)	100.0 (4,120)
Mean	3.07	3.12	2.80	3.25	3.15
Median	3.00	3.07	2.79	3.25	3.12
Interquartile range	2.8 - 3.3	2.9 - 3.4	2.5 - 3.1	3.0 - 3.6	2.9 - 3.5
Composite SAT Scores ^^				<i>F = 1063.62 (.000); Eta=.667</i>	
Below 700	10.1	10.0	23.4	0.4	6.7
700 - 799	27.6	23.1	32.6	2.0	14.7
800 - 899	28.9	37.1	28.7	10.6	23.4
900 - 999	25.6	22.9	13.2	22.6	22.2
1000 - 1099	6.1	6.0	1.8	31.4	17.3
1100 - 1199	1.8	0.8	0.3	21.7	10.5
1200 or higher	0.0	0.2	0.0	11.3	5.3
Total (No. of freshman entrants)	100.0 (395)	100.0 (1,424)	100.0 (334)	100.0 (1,829)	100.0 (3,982)
Mean	839.7	839.3	774.6	1041.3	926.7
Median	840.0	840.0	770.0	1040.0	920.0
Interquartile range	750 - 930	770 - 910	710 - 860	960 - 1120	810 - 1040
ELM Scores				<i>F = 605.18 (.000); Eta=.622</i>	
Below 34 (two remedial courses required)	40.2	41.0	60.2	2.9	24.2
34 - 49 (one remedial course required)	54.5	53.9	26.4	7.2	29.3
50 or higher (eligible for GE Math)	2.3	2.5	7.8	29.7	16.0
Exempt from ELM	3.0	2.6	5.7	60.2	30.5
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Mean	34.6	34.5	31.4	52.0	39.0
Median	34.0	36.0	30.0	54.0	38.0
Interquartile range	28 - 42	28 - 42	24 - 38	48 - 58	30 - 48
(No. of freshman on which averages based)	(386)	(1,389)	(315)	(792)	(2,882)

^^ When ACT scores were the only ones incoming freshmen submitted (n=223), their scores were converted to their SAT equivalents.

Table 4. cont'd.

	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
EPT Scores				<i>F = 81.15 (.000); Eta=.291</i>	
Below 141 (eligible for 113 courses)	52.3	52.0	72.8	13.8	35.4
141 - 150 (eligible for 114 courses)	28.6	27.3	18.9	21.9	24.2
151 or higher (eligible for 115 courses)	3.8	3.1	1.8	5.3	4.1
Exempt from EPT	15.3	17.6	6.6	58.9	36.3
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Mean	137.8	138.2	135.1	142.0	138.9
Median	138.0	138.0	135.0	143.0	139.0
Interquartile range (No. of freshman on which averages based)	133 - 143 (337)	133 - 143 (1,175)	130 - 140 (312)	139 - 148 (817)	133 - 144 (2,641)

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

Measures of Association with Exempt and Summer Bridge groups excluded:

High School GPA	<i>F = 7.15 (.008); Eta=.063</i>
Composite SAT scores	<i>F = .005 (NS); Eta=.002</i>
ELM scores	<i>F = .010 (NS); Eta=.002</i>
EPT scores	<i>F = .677 (NS); Eta=.021</i>

Table 5. Gains in Proficiency During Summer 2012 by Summer Program Participation of First Time Freshmen Entering in Fall 2012

	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
Proficiency at Beginning of Summer Term	<i>Chi square = 3074.39 (.000); df=9</i>			<i>Cramer's V=.497</i>	
Fully proficient	0.0	0.1	1.2	70.0	33.7
Needs remediation in	100.0	99.9	98.8	30.0	66.3
<i>English only</i>	6.8	6.7	13.8	20.7	14.0
<i>Mathematics only</i>	26.1	30.0	10.5	1.1	14.2
<i>in both subjects</i>	67.1	63.3	74.6	8.2	38.1
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Needs Remediation in Writing	73.9	69.9	88.3	28.9	52.1
Needs Remediation in Mathematics	93.2	93.3	85.0	9.3	52.3
Proficiency at Fall Entry	<i>Chi square = 2809.66 (.000); df=9</i>			<i>Cramer's V=.475</i>	
Fully proficient	0.0	2.6	3.0	70.0	34.7
Needs remediation in	100.0	97.4	97.0	30.0	65.3
<i>English only</i>	6.8	9.9	16.8	20.8	15.4
<i>Mathematics only</i>	26.1	27.5	9.9	1.1	13.3
<i>in both subjects</i>	67.1	60.0	70.4	8.1	36.7
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Needs Remediation in Writing	73.9	69.9	87.1	28.9	52.0
Needs Remediation in Mathematics	93.2	87.5	80.2	9.2	49.9

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

Measures of Association with Exempt and Summer Bridge groups excluded:

Proficiency at Beginning of Summer Term *Chi square = 2.61 (NS); df=3 Cramer's V=.038*

Proficiency at Fall Entry *Chi square = 16.31 (.001); df=3 Cramer's V=.095*

Table 6. Fall-Term Units Attempted by First Time Freshmen Entering CSUN in Fall 2012 by Participation in Summer Programs

	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
Remedial Units Attempted in Fall 2012	<i>Chi square = 2510.55 (.000); df=6</i>			<i>Cramer's V=.550</i>	
None	9.1	14.0	16.8	91.3	50.8
3 units	39.7	35.7	34.4	3.7	20.6
5 units ^^	51.3	50.3	48.8	5.0	28.5
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Other Units Attempted in Fall 2012	<i>F = 966.31 (.000); Eta=.642</i>				
6 or fewer	2.5	0.8	0.0	0.7	0.9
7 - 11 units	86.9	81.9	11.7	9.4	41.9
12 - 14 units	10.1	15.2	67.7	67.0	43.8
15 or more units	0.5	2.0	20.7	22.9	13.4
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
All Units Attempted in Fall 2012	<i>F = 635.87 (.000); Eta=.561</i>				
6 or fewer	1.0	0.3	0.0	0.7	0.5
7 - 11 units	2.0	0.8	0.0	1.1	1.0
12 - 14 units	78.4	77.2	7.8	73.7	70.0
15 or more units	18.6	21.7	92.2	24.6	28.5
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Mean	13.4	13.6	17.3	13.4	13.8
Median	14.0	14.0	16.0	13.0	14.0
Interquartile range	13 - 14	13 - 14	16 - 20	12 - 14	13 - 15

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

^^ Includes a few students attempting 8 units.

Table 7. Spring-Term Units Attempted by First Time Freshmen Entering CSUN in Fall 2012 by Participation in Summer Programs

	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
Remedial Units Attempted in Spring 2013	<i>Chi square = 1048.45 (.000); df=6</i>			<i>Cramer's V=.363</i>	
None	46.2	51.8	45.1	95.5	71.6
3 units	13.3	7.4	11.9	0.7	5.1
5 units ^^	40.5	40.8	43.0	3.8	23.2
Total (No. of freshman entrants)	100.0 (368)	100.0 (1,373)	100.0 (328)	100.0 (1,901)	100.0 (3,970)
Other Units Attempted in Spring 2013				<i>F = 289.82 (.000); Eta=.424</i>	
6 or fewer	6.8	1.5	0.6	0.7	1.6
7 - 11 units	49.7	47.4	53.1	6.6	28.6
12 - 14 units	34.0	36.7	38.3	62.0	48.7
15 or more units	9.5	14.4	8.0	30.6	21.2
Total (No. of freshman entrants)	100.0 (368)	100.0 (1,373)	100.0 (326)	100.0 (1,901)	100.0 (3,968)
All Units Attempted in Spring 2013				<i>F = 15.30 (.000); Eta=.107</i>	
6 or fewer	1.1	0.2	0.6	0.6	0.5
7 - 11 units	9.5	3.1	0.9	2.6	3.3
12 - 14 units	71.2	70.4	75.6	65.0	68.3
15 or more units	18.2	26.2	22.9	31.9	27.9
Total (No. of freshman entrants)	100.0 (368)	100.0 (1,373)	100.0 (328)	100.0 (1,901)	100.0 (3,970)
Mean	12.9	13.4	13.3	13.6	13.4
Median	13.0	13.0	13.0	13.0	13.0
Interquartile range	12 - 14	12 - 15	12 - 14	12 - 15	12 - 15

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

^^ Includes a few students attempting 8 units.

Table 8. Fall Term Stretch Writing Courses Attempted by Freshman Entering CSUN in Fall 2012 by Participation in Summer Writing Programs

	Should Have Partic. in Early Start	Summer Bridge Programs *	Early Start Participants - Writing	Early Start Participants - Math only ^	Exempt from Early Start	All Fall 2012 Freshmen
No Stretch Course attempted	3.5	0.9	0.0	8.4	14.5	9.3
Exempt (GE English completed at entry)	0.0	0.0	--	0.0	0.8	0.4
<i>Not Exempt</i>	3.5	0.9	--	8.4	13.7	8.9
Stretch Course Attempted	96.5	99.1	100.0	91.6	85.5	90.7
113A course offered by	51.8	81.4	99.0	26.7	15.0	36.4
<i>English</i>	34.4	10.8	68.3	17.4	12.5	22.1
<i>Chicano Studies</i>	11.3	38.0	17.5	5.5	1.1	8.0
<i>Asian American Studies</i>	3.8	31.7	5.8	1.7	1.0	4.5
<i>Pan African Studies</i>	1.8	0.9	3.1	1.3	0.3	1.0
<i>Central American Studies</i>	0.5	0.0	4.3	0.7	0.2	0.8
114A course offered by	26.9	12.3	0.8	39.1	19.7	22.0
<i>English</i>	19.1	2.1	0.8	28.8	15.2	15.9
<i>Chicano Studies</i>	4.0	0.9	0.0	6.3	2.5	3.1
<i>Asian American Studies</i>	1.8	8.4	0.0	1.0	1.0	1.5
<i>Central American Studies</i>	1.8	0.3	0.0	2.0	0.7	1.0
<i>Pan African Studies</i>	0.3	0.6	0.0	1.1	0.4	0.5
115 course offered by	17.8	5.4	0.2	25.7	50.8	32.4
<i>English</i>	8.8	3.3	0.0	13.8	32.1	19.6
<i>Chicano Studies</i>	2.8	0.9	0.0	5.2	7.1	4.9
<i>Asian American Studies</i>	1.8	0.0	0.0	1.4	4.3	2.5
<i>Pan African Studies</i>	2.3	0.9	0.2	3.1	3.1	2.5
<i>Central American Studies</i>	1.8	0.0	0.0	1.4	3.9	2.3
<i>Queer Studies</i>	0.5	0.3	0.0	0.9	0.4	0.5
Total (Number of students)	100.0 (398)	100.0 (334)	100.0 (486)	100.0 (940)	100.0 (1,989)	100.0 (4,147)

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

Type of Stretch course attempted: Chi square = 1878.18 (.000); df=12 Cramer's V=.389

Table 9. Grades Earned in Fall Term Stretch Writing Courses by First Time Freshmen Entering CSUN in Fall 2012 by Participation in Summer Writing Programs

	Should Have Partic. in Early Start	Summer Bridge Programs *	Early Start Participants - Writing	Early Start Participants - Math only ^	Exempt from Early Start	All Fall 2012 Freshmen
113A Courses						
Earned A or B grades	64.6	83.8	74.0	79.7	58.9	72.4
Earned D, F, or U grades	16.5	6.6	9.2	5.6	20.1	11.3
Passed course (D- or better)	86.9	94.9	94.0	95.2	86.6	91.9
(No. of students on which percent based)	(206)	(272)	(481)	(251)	(299)	(1,509)
114A Courses						
Earned A or B grades	67.3	80.5	--	78.3	74.0	75.2
Earned D, F, or U grades	19.6	4.9	--	6.3	10.0	9.4
Passed course (D- or better)	86.9	95.1	--	95.9	94.6	94.3
(No. of students on which percent based)	(107)	(41)	(4)	(368)	(392)	(912)
115 Courses						
Earned A or B grades	66.2	61.1	--	72.7	76.7	75.2
Earned D, F, or U grades	22.5	16.7	--	11.6	10.5	11.5
Passed course (D- or better)	88.7	83.3	--	90.9	91.9	91.4
(No. of students on which percent based)	(71)	(18)	(1)	(242)	(1,010)	(1,342)
All Grades Earned						
A or B grades	65.6	82.2	73.9	77.1	73.0	74.1
A	12.2	25.7	12.3	17.7	19.3	17.9
A-	14.3	12.4	13.0	16.6	16.3	15.4
B+	10.7	14.5	17.7	15.8	14.1	14.6
B	18.0	20.5	19.1	16.8	14.8	16.6
B-	10.4	9.1	11.7	10.2	8.6	9.6
C grades	15.9	10.9	16.7	15.3	15.0	15.0
C+	6.8	2.7	7.0	5.5	6.1	5.8
C	6.0	6.6	7.0	6.3	5.3	5.9
C-	3.1	1.5	2.7	3.6	3.6	3.2

Table 9 cont'd.

	Should Have Partic. in Early Start	Summer Bridge Programs *	Early Start Participants - Writing	Early Start Participants - Math only ^	Exempt from Early Start	All Fall 2012 Freshmen
D, F or U grades	18.5	12.7	12.6	8.2	10.8	9.2
<i>D+</i>	1.8	0.9	1.0	0.5	1.4	1.1
<i>D</i>	2.3	0.0	1.0	0.9	1.4	1.2
<i>D-</i>	1.6	0.3	1.2	0.5	0.9	0.9
<i>F,I</i>	7.3	5.1	4.9	3.9	5.9	5.4
<i>W, WU</i>	5.5	6.3	4.3	2.4	1.2	0.6
Total (Number of students)	100.0 (384)	100.0 (331)	100.0 (486)	100.0 (861)	100.0 (1,701)	100.0 (3,763)

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

A or B grades - all students: Chi square = 30.87 (.000); df=4 Cramer's V=.091

A or B grades - 113A students only: Chi square = 58.84 (.000); df=4 Cramer's V=.197

Table 10. Spring Term Stretch Writing Courses Attempted by Freshman Entering CSUN in Fall 2012 by Participation in Summer Writing Programs

	Should Have Partic. in Early Start	Summer Bridge Programs *	Early Start Participants - Writing	Early Start Participants - Math only ^	Exempt from Early Start	All Fall 2012 Freshmen
No Stretch Course attempted	27.4	7.5	3.7	35.2	65.5	43.0
Exempt (GE English completed at entry)	0.5	0.0	0.0	0.0	2.8	1.4
GE course (115) completed in Fall	15.8	4.5	0.0	23.4	46.7	29.6
Not enrolled in Spring term	7.5	1.8	2.7	4.3	4.4	4.3
<i>Requirement still pending</i>	3.5	1.2	1.0	7.6	11.6	7.8
Stretch Course Attempted	72.6	92.5	96.3	64.8	34.5	57.0
113A or 114A courses offered by	5.8	2.4	3.7	1.8	1.7	2.4
<i>English (113A & 114A)</i>	5.0	2.4	3.7	1.2	1.4	2.0
<i>Chicano Studies (114A only)</i>	0.8	0.0	0.0	0.6	0.3	0.4
113B course offered by	43.7	77.5	91.8	24.5	12.5	32.7
<i>English</i>	29.6	9.6	64.8	16.7	10.1	19.8
<i>Chicano Studies</i>	8.3	36.2	16.0	4.4	0.9	7.0
<i>Asian American Studies</i>	3.3	30.5	5.1	1.5	1.1	4.2
<i>Pan African Studies</i>	2.0	0.9	2.7	1.2	0.3	1.0
<i>Central American Studies</i>	0.5	0.3	3.1	0.7	0.2	0.7
114B course offered by	22.1	11.7	0.8	36.9	18.0	20.2
<i>English</i>	15.6	2.1	0.8	27.9	14.1	14.8
<i>Chicano Studies</i>	3.3	0.6	0.0	4.9	1.8	2.3
<i>Asian American Studies</i>	1.3	8.1	0.0	1.0	0.9	1.4
<i>Central American Studies</i>	1.8	0.0	0.0	1.9	0.7	0.9
<i>Pan African Studies</i>	0.3	0.9	0.0	1.3	0.6	0.7
115 course offered by	1.0	0.9	0.0	1.6	2.3	1.6
<i>English</i>	1.0	0.3	0.0	1.4	1.8	1.3
<i>Chicano Studies</i>	0.0	0.6	0.0	0.2	0.5	0.3
Total (Number of students)	100.0 (398)	100.0 (334)	100.0 (486)	100.0 (940)	100.0 (1,989)	100.0 (4,147)

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

Type of Stretch course attempted: Chi square = 1826.04 (.000); df=16 Cramer's V=.332

Table 11. Grades Earned in Spring 2013 Stretch Writing Courses by First Time Freshmen Entering CSUN in Fall 2012 by Participation in Summer Writing Programs

	Should Have Partic. in Early Start	Summer Bridge Programs *	Early Start Participants - Writing	Early Start Participants - Math only ^	Exempt from Early Start	All Fall 2012 Freshmen
113A or 114A Courses						
Earned A or B grades	13.0	0.0	22.2	17.6	23.5	18.0
Earned D, F, or U grades	56.5	100.0	55.6	64.7	55.9	61.0
Passed course (D- or better)	43.5	25.0	66.7	35.3	64.7	52.0
(No. of students on which percent based)	(23)	(8)	(18)	(17)	(34)	(100)
113B Courses						
Earned A or B grades	60.3	74.9	71.5	70.9	66.7	69.7
Earned D, F, or U grades	17.2	8.9	9.9	10.0	10.4	10.8
Passed course (D- or better)	88.5	91.9	93.3	94.3	94.8	92.9
(No. of students on which percent based)	(174)	(259)	(446)	(230)	(249)	(1,358)
114B Courses						
Earned A or B grades	61.4	71.8	--	79.0	76.0	75.4
Earned D, F, or U grades	13.6	7.7	--	8.4	10.3	9.9
Passed course (D- or better)	92.0	94.9	--	94.5	94.7	94.1
(No. of students on which percent based)	(88)	(39)	(4)	(347)	(359)	(837)
115 Courses						
Earned A or B grades	--	--	--	73.3	55.6	55.2
Earned D, F, or U grades	--	--	--	13.3	31.1	32.8
Passed course (D- or better)	--	--	--	86.7	75.6	71.6
(No. of students on which percent based)	(4)	(3)	(0)	(15)	(45)	(67)
All Grades Earned						
A or B grades	56.4	71.8	69.4	74.1	68.7	69.1
A	6.9	18.8	12.6	18.4	20.1	16.4
A-	12.1	13.6	10.0	16.6	13.1	13.3
B+	11.8	17.8	14.1	13.8	12.7	13.8
B	14.9	13.6	20.1	16.4	13.8	15.8
B-	10.7	8.1	12.6	8.9	9.0	9.8

Table 11 cont'd.

	Should Have Partic. in Early Start	Summer Bridge Programs *	Early Start Participants - Writing	Early Start Participants - Math only ^	Exempt from Early Start	All Fall 2012 Freshmen
C grades	23.5	16.2	18.6	15.3	17.3	17.7
<i>C+</i>	9.0	8.4	6.8	6.2	6.4	7.0
<i>C</i>	7.6	6.1	6.8	5.6	7.6	6.7
<i>C-</i>	6.9	1.6	4.9	3.4	3.3	3.9
D, F or U grades	20.1	12.0	12.0	10.7	14.0	13.2
<i>D+</i>	1.7	0.3	0.9	0.7	2.0	1.2
<i>D</i>	2.8	1.0	2.6	2.1	2.8	2.3
<i>D-</i>	0.7	0.3	0.4	0.5	1.2	0.7
<i>F,I</i>	9.7	8.4	4.9	5.1	4.9	6.0
<i>W, WU</i>	5.2	1.9	3.2	2.3	3.1	3.0
Total (Number of students)	100.0 (289)	100.0 (309)	100.0 (468)	100.0 (609)	100.0 (687)	100.0 (2,362)

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

A or B grades - all students: Chi square = 30.02 (.000); df=4 Cramer's V=.113

A or B grades - 113B students only: Chi square = 12.48 (.014); df=4 Cramer's V=.096

Table 12. Fall Term Mathematics Courses Attempted by Freshmen Entering in Fall 2012 by Participation in Summer Mathematics Programs

Course	Should Have Partic. in Early Start	Summer Bridge Programs *	Early Start Participants - Mathematics ^	Early Start Participants - Writing only	Exempt from Early Start	All Fall 2012 Freshmen
No Mathematics Course attempted	3.3	9.3	3.1	18.7	25.1	14.6
Exempt (GE Math completed at entry)	0.3	0.3	0.0	0.0	0.9	0.5
Not Exempt	3.0	9.0	3.1	18.7	24.2	14.2
Mathematics Course Attempted	96.7	90.7	96.9	81.3	74.9	85.4
Remedial Course	91.0	79.3	92.1	21.1	8.7	48.9
<i>Math 092</i>	39.7	47.0	37.9	12.2	3.7	21.7
<i>Math 093</i>	41.2	31.4	52.6	1.6	4.8	25.4
<i>Math 096S</i>	10.1	0.9	1.5	7.3	0.2	1.8
GE Course	5.8	11.1	4.8	56.9	63.7	35.2
<i>Math 140</i>	1.3	3.3	1.5	17.9	17.5	9.8
<i>Math 102</i>	2.5	3.6	2.0	14.6	16.0	9.3
<i>Math 103</i>	1.3	2.7	0.4	16.3	12.8	7.1
<i>Math 131</i>	0.3	1.5	0.9	5.7	11.8	6.3
<i>Math 150A</i>	0.5	0.0	0.0	0.8	3.8	1.9
<i>Math 105</i>	0.0	0.0	0.0	1.6	1.3	0.7
<i>Math 255A</i>	0.0	0.0	0.0	0.0	0.5	0.2
Other Courses **	0.0	0.3	0.1	3.3	2.5	1.4
Total (Number of students)	100.0 (398)	100.0 (334)	100.0 (1,303)	100.0 (123)	100.0 (1,989)	100.0 (4,147)

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

** The courses in this group carry GE credit for restricted groups of students or have prerequisites: Math 104, Math 150B, Math 210, Math 250, Math 255B, and Math 262.

Type of Math course attempted (remedial vs. GE): Chi square = 2317.20 (.000); df=4 Cramer's V=.815

Table 13. Grades Earned in Fall Term Remedial or GE Mathematics Courses by Freshmen Entering CSUN in Fall 2012 by Participation in Summer Mathematics Programs

Grade	Should Have Partic. in Early Start	Summer Bridge Programs *	Early Start Participants - Mathematics ^	Early Start Participants - Writing only	Exempt from Early Start	All Fall 2012 Freshmen
Remedial Courses					<i>Chi square = 20.31 (.000); df=4</i>	<i>Cramer's V=.100</i>
Credit	60.5	72.8	71.9	69.2	64.7	69.3
No credit	39.5	27.2	28.1	30.8	35.3	30.7
Total (Number of students)	100.0 (362)	100.0 (265)	100.0 (1,200)	100.0 (26)	100.0 (173)	100.0 (2,026)
GE Courses					<i>Chi square = 7.70 (NS); df=4</i>	<i>Cramer's V=.073^^</i>
Earned A or B grades	39.1	43.2	58.1	38.6	51.3	50.6
Earned D, F, or U grades	43.5	27.0	19.4	40.0	30.2	30.3
Passed course (D- or better)	60.9	91.9	90.3	77.1	80.8	81.0
(No. of students on which percent based)	(23)	(37)	(62)	(70)	(1,265)	(1,457)
All Grades Earned in GE Courses						
A or B grades	39.1	43.2	58.1	38.6	51.3	50.6
A	17.4	13.5	16.1	7.1	19.5	18.5
A-	0.0	0.0	8.1	4.3	6.1	5.8
B+	4.4	13.5	12.9	8.6	7.4	7.8
B	17.4	10.8	19.4	12.9	14.2	14.3
B-	0.0	5.4	1.6	5.7	4.1	4.1
C grades	17.4	29.7	22.6	21.4	18.5	19.1
C+	0.0	10.8	6.5	1.4	5.6	5.5
C	17.4	18.9	16.1	18.6	11.2	12.0
C-	0.0	0.0	0.0	1.4	1.7	1.6
D, F or U grades	43.5	27.0	19.4	40.0	30.2	30.3
D+	0.0	0.0	0.0	1.4	1.6	1.4
D	4.4	18.9	9.7	14.3	9.0	9.5
D-	0.0	0.0	0.0	1.4	0.4	0.4
F,I	30.4	8.1	9.7	20.0	17.8	17.5
W, WU	8.7	0.0	0.0	2.9	1.4	1.5
Total (Number of students)	100.0 (23)	100.0 (37)	100.0 (62)	100.0 (70)	100.0 (1,265)	100.0 (1,457)

^ Includes the Fresh Start EOP students.

^^ These statistics compare students who did and did not earn A or B grades.

* Includes the Strong Start students.

Table 14. Spring Term Mathematics Courses Attempted by Freshmen Entering in Fall 2012 by Participation in Summer Mathematics Programs

Course	Should Have Partic. in Early Start	Summer Bridge Programs *	Early Start Participants - Mathematics ^	Early Start Participants - Writing only	Exempt from Early Start	All Fall 2012 Freshmen
No Mathematics Course attempted	26.6	34.4	29.9	53.7	63.7	46.8
Exempt (GE Math completed at entry)	1.0	0.9	1.1	0.0	2.0	1.5
GE math course completed in Fall	3.5	10.2	4.3	43.9	51.4	28.5
Not enrolled in Spring	7.5	1.8	3.6	4.9	4.4	4.3
<i>Requirement still pending</i>	14.6	21.6	20.9	4.9	5.8	12.6
Mathematics Course Attempted	73.4	65.6	70.1	46.3	36.3	53.2
Remedial Course	49.7	53.9	49.5	13.8	4.3	27.2
<i>Math 092</i>	12.3	11.7	7.4	4.1	0.7	4.9
<i>Math 093</i>	37.4	42.2	42.1	9.8	3.6	22.2
GE Course	22.4	9.9	19.0	26.8	23.1	20.8
<i>Math 140</i>	9.8	4.8	4.5	8.1	6.9	6.3
<i>Math 102</i>	7.0	3.6	6.1	9.8	5.8	5.9
<i>Math 103</i>	2.8	0.9	3.5	4.9	4.5	3.8
<i>Math 131</i>	2.5	0.6	4.8	2.4	1.5	2.6
<i>Math 150A</i>	0.0	0.0	0.0	1.6	2.2	1.1
<i>Math 105</i>	0.0	0.0	0.2	0.0	1.1	0.6
<i>Math 255A</i>	0.3	0.0	0.0	0.0	1.2	0.6
Other Course **	1.3	1.8	1.6	5.7	8.9	5.2
Total (Number of students)	100.0 (398)	100.0 (334)	100.0 (1,303)	100.0 (123)	100.0 (1,989)	100.0 (4,147)

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

** The courses in this group carry GE credit for restricted groups of students or have prerequisites: Math 104, Math 150B, Math 210, Math 250, Math 262, Math 280, and Math 320.

Type of Math course attempted (remedial vs. GE): Chi square = 555.58 (.000); df=4 Cramer's V=.529

Table 15. Grades Earned in Spring Term Remedial or GE Mathematics Courses by Freshmen Entering CSUN in Fall 2012 by Participation in Summer Mathematics Programs

Grade	Should Have Partic. in Early Start	Summer Bridge Programs *	Early Start Participants - Mathematics ^	Early Start Participants - Writing only	Exempt from Early Start	All Fall 2012 Freshmen
Remedial Courses						
					<i>Chi square = 23.58 (.000); df=4</i>	<i>Cramer's V=.145</i>
Credit	46.0	40.6	58.1	47.1	59.3	53.1
No credit	54.0	59.4	41.9	52.9	40.7	46.9
Total (Number of students)	100.0 (198)	100.0 (180)	100.0 (645)	100.0 (17)	100.0 (86)	100.0 (1,126)
GE Courses						
					<i>Chi square = 16.44 (.002); df=4</i>	<i>Cramer's V=.138^^</i>
Earned A or B grades	31.5	27.3	35.9	57.6	45.7	41.1
Earned D, F, or U grades	51.7	51.5	37.5	27.3	30.9	35.6
Passed course (D- or better)	67.4	69.7	75.8	87.9	80.2	77.5
(No. of students on which percent based)	(89)	(33)	(248)	(33)	(460)	(863)
All Grades Earned in GE Courses						
A or B grades	31.5	27.3	35.9	57.6	45.7	41.1
A	5.6	9.1	13.7	12.1	18.7	15.3
A-	4.5	3.0	4.0	3.0	4.6	4.3
B+	3.4	3.0	4.8	12.1	5.4	5.2
B	15.7	6.1	10.1	9.1	12.0	11.5
B-	2.3	6.1	3.2	21.2	5.0	4.9
C grades	16.9	21.2	26.6	15.2	23.5	23.3
C+	3.4	6.1	8.9	9.1	5.2	6.3
C	10.1	12.1	12.5	6.1	16.7	14.3
C-	3.4	3.0	5.2	0.0	1.5	2.8
D, F or U grades	51.7	51.5	37.5	27.3	30.9	35.6
D+	2.3	0.0	2.0	0.0	1.7	1.7
D	16.9	21.2	10.9	15.2	8.3	10.7
D-	0.0	0.0	0.4	0.0	1.1	0.7
F,I	30.3	30.3	23.0	12.1	15.2	19.5
W, WU	2.3	0.0	1.2	0.0	4.6	3.0
Total (Number of students)	100.0 (89)	100.0 (33)	100.0 (248)	100.0 (33)	100.0 (460)	100.0 (863)

^ Includes the Fresh Start EOP students.

^^ These statistics compare students who did and did not earn A or B grades.

* Includes the Strong Start students.

Table 16. Fall-Term Units Earned by First Time Freshmen Entering CSUN in Fall 2012 by Participation in Summer Programs

	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
Remedial Units Earned in Fall 2012	<i>Chi square = 1418.18 (.000); df=6</i>			<i>Cramer's V=.414</i>	
None	45.0	38.2	38.0	94.4	65.8
3 units	21.9	25.5	33.8	2.4	14.8
5 units ^^	33.2	36.3	28.1	3.2	19.5
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Other Units Earned in Fall 2012				<i>F = 314.55 (.000); Eta=.431</i>	
6 or fewer	22.1	10.1	3.9	7.8	9.7
7 - 11 units	70.4	75.8	25.8	19.4	44.2
12 - 14 units	7.5	12.4	53.6	54.1	35.3
15 or more units	0.0	1.7	16.8	18.7	10.9
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
All Units Earned in Fall 2012				<i>F = 105.50 (.000); Eta=.266</i>	
6 or fewer	17.6	6.8	3.0	7.5	7.9
7 - 11 units	29.7	24.8	14.7	15.0	19.7
12 - 14 units	40.7	53.9	19.5	57.9	51.8
15 or more units	12.1	14.6	62.9	19.6	20.6
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Mean	10.4	11.8	14.9	12.1	12.0
Median	12.0	13.0	16.0	13.0	13.0
Interquartile range	9 - 14	10 - 14	13 - 17	12 - 14	10 - 14

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

^^ Includes a few students earning 8 units.

Table 17. Spring-Term Units Earned by First Time Freshmen Entering CSUN in Fall 2012 by Participation in Summer Programs

	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
Remedial Units Earned in Spring 2013	<i>Chi square = 456.25 (.000); df=6</i>			<i>Cramer's V=.240</i>	
None	75.3	72.1	77.7	97.3	84.9
3 units	5.2	3.4	1.8	0.2	1.9
5 units ^^	19.6	24.5	20.4	2.5	13.2
Total (No. of freshman entrants)	100.0 (368)	100.0 (1,373)	100.0 (328)	100.0 (1,901)	100.0 (3,970)
Other Units Earned in Spring 2013				<i>F = 173.19 (.000); Eta=.340</i>	
6 or fewer	21.4	8.5	10.8	5.0	8.1
7 - 11 units	43.5	48.2	52.9	15.9	32.5
12 - 14 units	28.0	31.0	30.3	51.4	40.6
15 or more units	7.1	12.3	6.1	27.7	18.8
Total (No. of freshman entrants)	100.0 (336)	100.0 (1,324)	100.0 (314)	100.0 (1,852)	100.0 (3,826)
All Units Earned in Spring 2013				<i>F = 70.97 (.000); Eta=.226</i>	
6 or fewer	24.5	9.5	13.7	7.2	10.2
7 - 11 units	25.0	24.3	30.8	13.4	19.7
12 - 14 units	38.9	46.8	42.1	51.7	48.0
15 or more units	11.7	19.4	13.4	27.7	22.2
Total (No. of freshman entrants)	100.0 (368)	100.0 (1,373)	100.0 (328)	100.0 (1,901)	100.0 (3,970)
Mean	9.7	11.4	10.5	12.4	11.6
Median	12.0	12.0	12.0	13.0	13.0
Interquartile range	7 - 13	10 - 14	7 - 13	12 - 15	10 - 14

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

^^ Includes a few students earning 8 units.

Table 18. Units Earned During First Year at CSUN by First Time Freshmen Entering in Fall 2012 by Participation in Summer Programs

	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
Remedial Units Earned During First Year at CSUN	<i>Chi square = 1952.24 (.000); df=9</i>			<i>Cramer's V=.396</i>	
None	32.9	27.4	31.1	93.4	59.9
3 units	15.8	12.6	20.7	1.1	8.0
5 units	40.5	43.8	19.2	4.0	22.4
8 units	10.8	16.3	29.0	1.6	9.7
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Cumulative Units Earned During First Year at CSUN ^^	<i>F=61.49 (.000); Eta=.206</i>				
17 or fewer units	34.2	17.5	13.8	12.8	16.5
18 - 23 units	23.9	23.7	22.5	16.1	20.0
24 - 26 units	20.4	28.5	9.3	30.7	27.2
27 - 29 units	17.6	22.7	20.1	26.1	23.6
30 or more units	4.0	7.6	34.4	14.3	12.6
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
Mean	19.4	22.7	25.6	23.9	23.2
Median	22.0	25.0	28.0	26.0	25.0
Interquartile range	14 - 26	20 - 27	23 - 31	22 - 28	21 - 28

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

^^ These units all count towards graduation; thus, remedial units are excluded, but units earned through Advanced Placement or at other colleges and universities are included.

Table 19. Requirements Completed and Grades Earned During First Year at CSUN by First Time Freshmen Entering in Fall 2012 by Participation in Summer Programs

	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
1. Remedial Work Completed	<i>Chi square = 33.06 (.000); df=3</i>			<i>Cramer's V=.126</i>	
Yes ^^	59.8	74.6	74.3	67.2	71.3
No	40.2	25.4	25.8	32.8	28.7
Total (No. of freshman entrants)	100.0 (371)	100.0 (1,248)	100.0 (268)	100.0 (183)	100.0 (2,070)
2. GE Mathematics Requirement Completed	<i>Chi square = 806.21 (.000); df=3</i>			<i>Cramer's V=.441</i>	
Yes	19.1	22.8	16.8	64.6	42.0
No	80.9	77.2	83.2	35.4	58.0
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
3. GE Writing Requirement Completed	<i>Chi square = 32.41 (.000); df=3</i>			<i>Cramer's V=.088</i>	
Yes	74.9	83.9	86.8	78.4	80.6
No	25.1	16.1	13.2	21.6	19.4
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)
4. Cumulative GPA at End of First Year	<i>F = 43.95 (.000); Eta=.178</i>				
1.99 or less	32.8	17.7	16.2	16.2	18.2
2.00 - 2.49	19.6	18.1	17.7	14.3	16.4
2.50 - 2.99	23.1	23.8	28.1	20.7	22.6
3.00 - 3.49	17.2	26.8	26.7	24.6	24.9
3.50 - 3.74	5.1	8.8	6.9	12.7	10.2
3.75 or higher	2.2	4.7	4.5	11.5	7.7
Total (No. of freshman entrants)	100.0 (372)	100.0 (1,398)	100.0 (334)	100.0 (1,941)	100.0 (4,045)
Mean	2.32	2.67	2.68	2.83	2.71
Median	2.45	2.80	2.79	2.96	2.85
Interquartile range	1.7 - 3.0	2.2 - 3.3	2.2 - 3.2	2.3 - 3.5	2.2 - 3.3
5. Academic Standing at End of First Year	<i>Chi square = 84.33 (.000); df=6</i>			<i>Cramer's V=.101</i>	
In good standing	62.9	80.9	83.5	81.9	79.9
On probation	22.0	11.7	11.7	11.8	12.7
Disqualified	15.2	7.4	4.8	6.2	7.4
Total (No. of freshman entrants)	100.0 (396)	100.0 (1,426)	100.0 (334)	100.0 (1,988)	100.0 (4,144)

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

^^ This grouping includes 192 students who completed their remedial work during Summer 2013 and 71 students who appear to have completed a GE math course without completing all of their needed remedial coursework. At least a few are likely to have taken a remedial and GE course simultaneously (in such cases, the less advanced course was dropped from consideration at the beginning of the analysis). Taken as a whole, the 71 students constitute only 3.4% of all Fall 2012 freshmen needing remediation in math at entry.

Table 19 cont'd.

	Should Have Partic. in Early Start	Early Start Participants ^	Summer Bridge Programs *	Exempt from Early Start	All Fall 2012 Freshmen
6. One-Year Continuation Rate	<i>Chi square = 154.30 (.001); df=3</i>			<i>Cramer's V=.193</i>	
Enrolled in third term after entry	58.0	75.8	70.4	84.4	77.8
Not enrolled	42.0	24.2	29.6	15.6	22.2
Total (No. of freshman entrants)	100.0 (398)	100.0 (1,426)	100.0 (334)	100.0 (1,989)	100.0 (4,147)

^ Includes the Fresh Start EOP students.

* Includes the Strong Start students.

Table 20. Proficiency at Beginning and End of Summer Term by Fall Entry Term

	Fall 2011 Freshmen	Fall 2012 Freshmen
Proficiency at Beginning of Summer Term	<i>Chi square = 1.08 (NS); df=3 Cramer's V=.011</i>	
Fully proficient	32.7	33.7
Needs remediation in	67.3	66.3
<i>English only</i>	14.3	14.0
<i>Mathematics only</i>	14.5	14.2
<i>in both subjects</i>	38.5	38.1
Total (No. of freshman entrants)	100.0 (5,269)	100.0 (4,147)
Needs Remediation in Writing	52.8	52.1
Needs Remediation in Mathematics	53.0	52.3
Proficiency at Fall Entry	<i>Chi square = 6.73 (.080); df=3 Cramer's V=.027</i>	
Fully proficient	33.0	34.7
Needs remediation in	67.1	65.3
<i>English only</i>	14.5	15.4
<i>Mathematics only</i>	14.3	13.3
<i>in both subjects</i>	38.3	36.7
Total (No. of freshman entrants)	100.0 (5,269)	100.0 (4,147)
Needs Remediation in Writing	52.8	52.0
Needs Remediation in Mathematics	52.6	49.9

Table 21. Background Characteristics of First Time Freshmen Needing Remediation at CSUN Entry in Fall 2011 or Fall 2012

Characteristic	Fall 2011 Freshmen	Fall 2012 Freshmen
Gender	<i>Chi square = .018 (NS); df=1 Cramer's V=.002</i>	
Women	58.9	59.0
Men	41.1	41.0
Total (No. of freshman entrants)	100.0 (3,545)	100.0 (2,749)
Racial and Ethnic Background	<i>Chi square = 4.42 (.035); df=3 Cramer's V=.027 ^^</i>	
Traditionally Underserved	71.0	68.0
<i>American Indian</i>	0.2	0.1
<i>Pacific Islander</i>	0.2	0.0
<i>African American</i>	10.4	9.1
<i>Latina/o</i>	58.0	57.5
<i>Multi-race</i>	2.2	1.3
Better Served	22.6	24.6
<i>Asian</i>	9.0	8.9
<i>White</i>	10.3	12.1
<i>Multi-race (i.e., Asian & white)</i>	1.0	1.1
<i>Decline to state</i>	2.3	2.4
International	6.5	7.4
Total (No. of freshman entrants)	100.0 (3,545)	100.0 (2,749)
Pell Grant Status (proxy for low income)	<i>Chi square = 4.42 (.036); df=1 Cramer's V=.026</i>	
Pell Grant recipient	68.5	66.0
No grant received	31.5	34.0
Total (No. of freshman entrants)	100.0 (3,545)	100.0 (2,749)
Percentage Traditionally Underserved Among Pell Grant Recipients	85.5 (2,426)	83.1 (1,814)

^ These statistics compare Traditionally Underserved students with the Better Served grouping; international students are excluded.

Table 22. Preparation of First Time Freshmen Needing Remediation by CSUN Entry in Fall 2011 or Fall 2012

	Fall 2011 Freshmen	Fall 2012 Freshmen
High School GPA		<i>t = 0.57 (NS); Eta=.007</i>
2.75 or less	18.2	19.0
2.76 - 3.00	27.0	29.1
3.01 - 3.25	21.6	20.1
3.26 - 3.50	20.2	16.7
3.51 - 3.75	8.4	10.1
3.76 or higher	4.6	5.1
Total (No. of freshman entrants)	100.0 (3,517)	100.0 (2,722)
Mean	3.10	3.09
Median	3.07	3.05
Interquartile range	2.8 - 3.3	2.8 - 3.4
Composite SAT Scores ^		<i>t = 1.59 (NS); Eta=.021</i>
Below 700	10.3	10.3
700 - 799	21.2	22.5
800 - 899	32.3	33.9
900 - 999	27.3	24.5
1000 - 1099	8.0	7.7
1100 - 1199	1.0	1.0
1200 or higher	0.0	0.2
Total (No. of freshman entrants)	100.0 (3,360)	100.0 (2,587)
Mean	848.4	843.6
Median	855.0	850.0
Interquartile range	770 - 930	770 - 920
ELM Scores		<i>t = 1.16 (NS); Eta=.015</i>
Below 34 (two remedial courses required)	34.3	36.2
34 - 49 (one remedial course required)	44.8	43.0
50 or higher (eligible for GE Math)	10.4	9.2
Exempt from ELM	10.5	11.6
Total (No. of freshman entrants)	100.0 (3,545)	100.0 (2,749)
Mean	36.4	36.0
Median	36.0	36.0
Interquartile range	28 - 44	28 - 44
(No. of freshman on which averages based)	(3,174)	(2,429)

^ When ACT scores were the only ones incoming freshmen submitted, their scores were converted to their SAT equivalents.

Table 22. cont'd.

	Fall 2011 Freshmen	Fall 2012 Freshmen
EPT Scores	<i>t = -0.336 (NS); Eta=.005</i>	
Below 141 (eligible for 113 courses)	54.5	53.2
141 - 150 (eligible for 114 courses)	29.9	30.9
151 or higher (eligible for 115 courses)	3.1	2.3
Exempt from EPT	12.6	13.5
Total (No. of freshman entrants)	100.0 (3,545)	100.0 (2,749)
Mean	137.7	137.7
Median	138.0	138.0
Interquartile range	132 - 143	132 - 143
(No. of freshman on which averages based)	(3,098)	(2,377)

Table 23. Units Earned During First Year at CSUN by First Time Freshmen Needing Remediation at Entry in Fall 2011 or Fall 2012

	Fall 2011 Freshmen	Fall 2012 Freshmen
Remedial Units Earned During First Year at CSUN	<i>Chi square = 4.85 (NS); df=3 Cramer's V=.028</i>	
None	37.1	39.5
3 units	12.6	12.1
5 units	36.0	33.8
8 units	14.3	14.7
Total (No. of freshman entrants)	100.0 (3,545)	100.0 (2,749)
Cumulative Units Earned During First Year at CSUN ^	<i>t = -6.75 (.000); Eta=.085</i>	
17 or fewer units	24.0	19.4
18 - 23 units	25.7	23.2
24 - 26 units	26.5	24.9
27 - 29 units	18.2	21.8
30 or more units	5.7	10.6
Total (No. of freshman entrants)	100.0 (3,545)	100.0 (2,749)
Mean	21.3	22.6
Median	24.0	25.0
Interquartile range	18 - 26	20 - 27

^^ These units all count towards graduation; thus, remedial units are excluded, but units earned through Advanced Placement or at other colleges and universities are included.

Table 24. Requirements Completed and Grades Earned During First Year at CSUN by First Time Freshmen Needing Remediation At Entry in Fall 2011 or Fall 2012

	Fall 2011 Freshmen	Fall 2012 Freshmen
1. Remedial Work Completed	<i>Chi square = 1.00 (NS); df=1 Cramer's V=.014</i>	
Yes ^	72.6	71.3
No	27.4	28.7
Total (No. of freshman entrants)	100.0 (2,770)	100.0 (2,070)
2. GE Mathematics Requirement Completed	<i>Chi square = 16.81 (.000); df=1 Cramer's V=.052</i>	
Yes	23.8	28.3
No	76.2	71.7
Total (No. of freshman entrants)	100.0 (3,545)	100.0 (2,749)
3. GE Writing Requirement Completed	<i>Chi square = 13.21 (.000); df=1 Cramer's V=.046</i>	
Yes	79.0	82.6
No	21.0	17.4
Total (No. of freshman entrants)	100.0 (3,545)	100.0 (2,749)
4. Cumulative GPA at End of First Year	<i>t = -2.81 (.005); Eta=.035</i>	
1.99 or less	23.5	21.1
2.00 - 2.49	18.7	18.3
2.50 - 2.99	23.2	23.4
3.00 - 3.49	23.3	24.7
3.50 - 3.74	7.3	8.0
3.75 or higher	4.1	4.6
Total (No. of freshman entrants)	100.0 (3,432)	100.0 (2,676)
Mean	2.54	2.60
Median	2.67	2.72
Interquartile range	2.0 - 3.2	2.1 - 3.2
5. Academic Standing at End of First Year	<i>Chi square = 6.06 (.048); df=2 Cramer's V=.031</i>	
In good standing	74.3	76.9
On probation	15.7	14.5
Disqualified	10.0	8.6
Total (No. of freshman entrants)	100.0 (3,541)	100.0 (2,746)

^ This grouping includes a number of students who appear to have completed a GE math course without completing all of their needed remedial coursework (71 in the 2012 freshman cohort and 51 in the 2011 freshman cohort). Taken as a whole, however, they constitute only a small percentage of the students needing remediation at entry (3.4% and 2% respectively).

Table 24 cont'd.

	Fall 2011 Freshmen	Fall 2012 Freshmen
6. One-Year Continuation Rate	<i>Chi square = 7.34 (.007); df=1 Cramer's V=.034</i>	
Enrolled in third term after entry	70.5	73.6
Not enrolled	29.5	26.5
Total (No. of freshman entrants)	100.0 (3,544)	100.0 (2,749)

**Table 25. Participation in Summer Programs by First Time Freshmen Entering CSUN
in Fall 2012 or Fall 2013**

	Fall 2012 Totals		Fall 2013 Totals	
	Percent	Numbers	Percent	Numbers
Intensive Summer Programs				
EOP Summer Programs	9.7	402	9.5	553
<i>Campus Bridge programs</i>	7.4	305	5.8	336
<i>Fresh Start</i>	2.3	97	3.7	217
CSUN Strong Start	0.7	29	--	0
Early Start Program				
Participated in Program in	32.0	1,329	31.8	1,848
<i>English only</i>	3.0	123	3.4	196
<i>Mathematics only</i>	20.3	843	19.7	1,146
1-2 units	20.3	843	16.7	971
3 units	--	0	3.0	175
<i>Both subjects</i>	8.8	363	8.7	506
1-2 units	8.8	363	7.0	407
3 units	--	0	1.7	99
Should have participated; did not	9.6	398	11.8	684
Exempt from Summer Work	48.0	1,989	47.0	2,733
Total	100.0	4,147	100.0	5,818

Table 26. Activities of First Time Freshmen Participating in Summer 2013 CSUN-Sponsored Enrichment Programs by Program Type

Activity	Early Start Participants	EOP Fresh Start	EOP Summer Bridge
1. Attempted University 100	<i>Chi square = 2401.00 (.000); df=2 Cramer's V=1.00</i>		
Yes	0.0	0.0	100.0
No	100.0	100.0	0.0
Total (No. of freshman entrants)	100.0 (1,848)	100.0 (217)	100.0 (336)
2. Summer Writing Experience	<i>Chi square = 1562.92 (.000); df=4 Cramer's V=.571</i>		
None	62.1	98.2	37.8
15 hours (one credit) - online	37.9	1.8	0.0
30 hours (two credits) - online	--	--	--
45 hours (prep for Stretch courses) - face-to-face	0.0	0.0	62.2
Total (No. of freshman entrants)	100.0 (1,848)	100.0 (217)	100.0 (336)
3. Summer Mathematics Experience	<i>Chi square = 685.68 (.000); df=6 Cramer's V=.378</i>		
None	10.6	0.0	61.9
15 hours (one credit) - online	74.2	100.0	19.1
30 hours (two credits) - online	0.4	0.0	0.0
45 hours (three credits) - face-to-face	14.8	0.0	19.1
Total (No. of freshman entrants)	100.0 (1,848)	100.0 (217)	100.0 (336)
4. Reduction in Mathematics Remediation	<i>Chi square = 92.95 (.000); df=2 Cramer's V=.197</i>		
No change in status	62.9	94.9	71.1
Needed one course less	37.1	5.1	28.9
Further remediation required	22.6	0.9	28.9
Proficient	14.4	4.1	0.0
Needed two fewer courses; proficient	--	--	--
Total (No. of freshman entrants)	100.0 (1,848)	100.0 (217)	100.0 (336)

Table 27. Performance of First Time Freshmen Attempting Early Start Courses at CSUN During Summer 2013 (Percentages)

	Credit (advanced a level)	Satisfactory Progress	No Credit	Total	(No. of students)
One-unit course					
ESM 96LI (Developmental Math Diagnostic I)	51.8	45.4	2.7	100.0	(546)
ESM 96LII (Developmental Math Diagnostic II)	22.0	75.0	3.0	100.0	(663)
Three-unit course					
ESM 92 (Developmental Math I)	88.2	11.8	0.0	100.0	(161)
ESM 99 (Developmental Math II)	78.8	21.2	0.0	100.0	(113)
Total	44.5	53.1	2.4	100.0	(1,483)

Note: 365 students are missing from the above table because they completed the Early Start requirement at another CSU campus.

Table 28. Background Characteristics of First Time Freshmen Entering CSUN in Fall 2013 by Summer Program Participation

Characteristic	Should Have Partic. in Early Start	Early Start Participants Online ^ (1-2-units)	Face to face (3 units)	Summer Bridge Programs	Exempt from Early Start	All Fall 2013 Freshmen
Gender	<i>Chi square = 240.19 (.000); df=4 Cramer's V=.203</i>					
Women	56.6	68.9	70.4	61.9	46.9	56.8
Men	43.4	31.1	29.6	38.1	53.1	43.2
Total (No. of freshman entrants)	100.0 (684)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,733)	100.0 (5,818)
Racial and Ethnic Background	<i>Chi square = 442.49 (.000); df=4 Cramer's V=.287 ^^</i>					
Traditionally Underserved	72.2	74.0	78.5	89.0	47.5	62.4
<i>American Indian</i>	0.2	0.2	0.0	0.0	0.1	0.1
<i>Pacific Islander</i>	0.2	0.0	0.4	0.3	0.2	0.2
<i>African American</i>	8.8	9.6	2.6	23.5	4.2	7.4
<i>Latina/o</i>	61.3	62.2	74.8	63.1	40.5	52.6
<i>Multi-race</i>	1.9	2.0	0.7	2.1	2.4	2.1
Better Served	22.7	22.3	14.6	6.9	41.7	30.2
<i>Asian</i>	6.4	8.6	8.4	5.4	14.2	10.8
<i>White</i>	12.0	10.9	3.7	0.0	22.7	15.6
<i>Multi-race (i.e., Asian & white)</i>	0.9	0.8	0.4	0.0	2.3	1.4
<i>Decline to state</i>	3.4	2.0	2.2	1.5	2.5	2.4
International	5.1	3.7	6.9	4.2	10.8	7.4
Total (No. of freshman entrants)	100.0 (684)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,733)	100.0 (5,818)
Pell Grant Status (proxy for low income)	<i>Chi square = 482.59 (.000); df=4 Cramer's V=.288</i>					
Pell Grant recipient	61.4	68.5	71.2	94.1	44.7	58.1
No grant received	38.6	31.5	28.8	6.0	55.3	41.9
Total (No. of freshman entrants)	100.0 (684)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,733)	100.0 (5,818)
Percentage Traditionally Underserved Among Pell Grant Recipients	86.2 (420)	84.2 (1,225)	90.1 (192)	93.0 (316)	68.8 (1,220)	80.1 (3,373)

^ Includes the Fresh Start EOP students.

^^ These statistics compare Traditionally Underserved students with the Better Served grouping; international students are excluded.

Measures of Association with Exempt and Summer Bridge groups excluded:

Gender	<i>Chi square = 36.17 (.000); df=2 Cramer's V=.115</i>
Racial and Ethnic Background^^	<i>Chi square = 7.87(.02); df=2 Cramer's V=.055</i>
Pell Grant Status	<i>Chi square = 13.69 (.001); df=2 Cramer's V=.071</i>

Table 29. Preparation of First Time Freshmen Entering CSUN in Fall 2013 by Summer Program Participation

Characteristic	Should Have Partic. in Early Start	Early Start Participants		Summer Bridge Programs	Exempt from Early Start	All Fall 2013 Freshmen
		Online ^ (1-2-units)	Face to face (3 units)			
High School GPA					<i>F = 94.17 (.000); Eta=.247</i>	
2.75 or less	12.2	12.0	12.0	45.2	11.4	13.7
2.76 - 3.00	30.8	25.8	28.1	20.5	22.3	24.6
3.01 - 3.25	24.5	26.0	26.3	14.9	18.9	21.9
3.26 - 3.50	21.4	20.2	18.3	11.0	21.5	20.3
3.51 - 3.75	6.5	10.6	10.2	6.0	13.8	11.3
3.76 or higher	4.7	5.5	5.1	2.4	12.1	8.3
Total (No. of freshman entrants)	100.0 (682)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,695)	100.0 (5,778)
Mean	3.12	3.16	3.15	2.83	3.25	3.18
Median	3.09	3.12	3.12	2.82	3.23	3.15
Interquartile range	2.9 - 3.3	2.9 - 3.4	2.9 - 3.4	2.5 - 3.1	3.0 - 3.5	2.9 - 3.5
Composite SAT Scores ^^					<i>F = 963.97 (.000); Eta=.640</i>	
Below 700	9.5	9.9	9.7	30.8	1.0	7.1
700 - 799	23.6	22.6	29.7	31.7	2.6	14.6
800 - 899	34.9	34.0	37.2	24.6	9.5	22.7
900 - 999	22.3	25.0	20.8	9.9	26.0	24.0
1000 - 1099	8.5	7.3	2.6	2.7	29.4	16.9
1100 - 1199	1.3	1.1	0.0	0.3	21.0	10.0
1200 or higher	0.0	0.1	0.0	0.0	10.5	4.8
Total (No. of freshman entrants)	100.0 (674)	100.0 (1,784)	100.0 (269)	100.0 (334)	100.0 (2,509)	100.0 (5,570)
Mean	845.6	845.1	819.9	759.6	1032.6	923.3
Median	840.0	840.0	820.0	760.0	1030.0	920.0
Interquartile range	770 - 920	770 - 920	740 - 890	680 - 840	950 - 1120	810 - 1030

^^ When ACT scores were the only ones incoming freshmen submitted (n=346), their scores were converted to their SAT equivalents.

Table 29. cont'd.

Characteristic	Should Have Partic. in Early Start	Early Start Participants		Summer Bridge Programs	Exempt from Early Start	All Fall 2013 Freshmen
		Online ^ (1-2-units)	Face to face (3 units)			
ELM Scores					<i>F = 448.69 (.000); Eta=.553</i>	
Below 34 (two remedial courses required)	35.2	41.4	58.8	60.4	5.6	25.8
34 - 49 (one remedial course required)	47.4	47.9	41.2	27.1	9.0	28.0
50 or higher (eligible for GE Math)	5.3	4.6	0.0	6.0	29.8	16.4
Exempt from ELM	12.1	6.1	0.0	6.6	55.7	29.8
Total (No. of freshman entrants)	100.0 (684)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,733)	100.0 (5,818)
Mean	35.5	34.7	31.9	30.9	49.4	38.7
Median	36.0	34.0	32.0	29.0	52.0	38.0
Interquartile range (No. of freshman on which averages based)	30 - 42 (601)	28 - 42 (1,681)	26 - 38 (274)	24 - 38 (314)	42 - 58 (1,212)	30 - 48 (4,082)
EPT Scores					<i>F = 65.68 (.000); Eta=.263</i>	
Below 141 (eligible for 113 courses)	55.1	49.9	55.1	75.3	14.2	35.4
141 - 150 (eligible for 114 courses)	20.8	24.8	25.6	18.2	20.5	22.0
151 or higher (eligible for 115 courses)	2.6	2.9	3.7	0.9	4.1	3.3
Exempt from EPT	21.5	22.5	15.7	5.7	61.2	39.3
Total (No. of freshman entrants)	100.0 (684)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,733)	100.0 (5,818)
Mean	137.2	137.9	137.6	134.8	141.3	138.5
Median	137.0	137.0	138.0	134.0	143.0	139.0
Interquartile range (No. of freshman on which averages based)	132 - 141 (537)	133 -143 (1,388)	132 - 142 (231)	130 - 139 (317)	138 - 147 (1,061)	133 - 144 (3,534)

^ Includes the Fresh Start EOP students.

Measures of Association with Exempt and Summer Bridge groups excluded:

High School GPA	<i>F = 2.91 (.055); Eta=.046</i>
Composite SAT scores	<i>F = 6.17 (.002); Eta=.067</i>
ELM scores	<i>F = 13.89 (000); Eta=.104</i>
EPT scores	<i>F = 2.10 (NS); Eta=.044</i>

Table 30. Gains in Proficiency During Summer 2013 by Summer Program Participation of First Time Freshmen Entering in Fall 2013

Characteristic	Should Have Partic. in Early Start	Early Start Participants		Summer Bridge Programs	Exempt from Early Start	All Fall 2013 Freshmen
		Online ^ (1-2-units)	Face to face (3 units)			
Proficiency at Beginning of Summer Term					<i>Chi square = 3848.98 (.000); df=12</i>	<i>Cramer's V=.470</i>
Fully proficient	0.0	3.6	0.0	0.3	70.3	34.1
Needs remediation in	100.0	96.4	100.0	99.7	29.7	65.9
<i>English only</i>	14.9	9.3	0.0	14.0	18.5	14.1
<i>Mathematics only</i>	23.1	29.3	25.2	8.9	2.1	14.4
<i>in both subjects</i>	62.0	57.8	74.8	76.8	9.2	37.4
Total (No. of freshman entrants)	100.0 (684)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,733)	100.0 (5,818)
Needs Remediation in Writing	76.9	67.2	74.8	90.8	27.7	51.5
Needs Remediation in Mathematics	85.1	87.1	100.0	85.7	11.2	51.7
Proficiency at Fall Entry					<i>Chi square = 3275.00 (.000); df=12</i>	<i>Cramer's V=.433</i>
Fully proficient	0.0	8.4	10.6	0.3	70.7	36.3
Needs remediation in	100.0	91.6	89.4	99.7	29.3	63.7
<i>English only</i>	15.1	15.1	21.9	14.0	18.7	17.0
<i>Mathematics only</i>	23.1	24.5	14.6	8.9	1.7	12.2
<i>in both subjects</i>	61.8	52.1	52.9	76.8	9.0	34.5
Total (No. of freshman entrants)	100.0 (684)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,733)	100.0 (5,818)
Needs Remediation in Writing	76.9	67.2	74.8	90.8	27.7	51.5
Needs Remediation in Mathematics	84.9	76.6	67.5	85.7	10.7	46.7

^ Includes the Fresh Start EOP students.

Measures of Association with Exempt and Summer Bridge groups excluded:

Proficiency at Beginning of Summer Term	<i>Chi square = 46.91 (.000); df=3</i>	<i>Cramer's V=.138</i>
Proficiency at Fall Entry	<i>Chi square = 66.25 (.000); df=3</i>	<i>Cramer's V=.164</i>

Table 31. Fall-Term Units Attempted by First Time Freshmen Entering CSUN in Fall 2013 by Participation in Summer Programs

Characteristic	Should Have Partic. in Early Start	Early Start Participants Online ^ (1-2-units)	Face to face (3 units)	Summer Bridge Programs	Exempt from Early Start	All Fall 2013 Freshmen
Remedial Units Attempted in Fall 2013					<i>Chi square = 2761.02 (.000); df=8</i>	<i>Cramer's V=.487</i>
None	16.7	22.5	33.6	14.3	88.2	52.7
3 units	35.2	22.9	6.9	34.2	5.7	16.2
5 units ^^	48.1	54.6	59.5	51.5	6.1	31.1
Total (No. of freshman entrants)	100.0 (684)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,733)	100.0 (5,818)
Other Units Attempted in Fall 2013					<i>F = 823.52 (.000); Eta=.601</i>	
6 or fewer	1.3	0.2	0.7	0.0	0.5	0.5
7 - 11 units	80.9	76.0	65.3	4.8	12.5	42.1
12 - 14 units	16.4	20.8	32.1	74.4	69.8	46.9
15 or more units	1.5	3.0	1.8	20.8	17.2	10.5
Total (No. of freshman entrants)	100.0 (684)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,733)	100.0 (5,818)
All Units Attempted in Fall 2013					<i>F = 795.05 (.000); Eta=.595</i>	
6 or fewer	1.0	0.1	0.4	0.0	0.5	0.4
7 - 11 units	0.6	0.4	0.4	0.0	0.9	0.6
12 - 14 units	83.0	77.5	72.3	0.9	79.5	74.4
15 or more units	15.4	22.1	27.0	99.1	19.2	24.6
Total (No. of freshman entrants)	100.0 (684)	100.0 (1,791)	100.0 (274)	100.0 (336)	100.0 (2,733)	100.0 (5,818)
Mean	13.3	13.6	13.7	17.7	13.3	13.7
Median	13.0	14.0	14.0	17.0	13.0	13.0
Interquartile range	13 - 14	13 - 14	13 - 15	16 - 19	12 - 14	13 - 14

^ Includes the Fresh Start EOP students.

^^ Includes a few students attempting more than 5 units.

Table 32. Fall Term Stretch Writing Courses Attempted by Freshman Entering CSUN in Fall 2013 by Participation in Summer Writing Programs

	Should Have Partic. in Early Start	Summer Bridge Programs	Early Start Participants - Writing	Early Start Participants - Math only ^	Exempt from Early Start	All Fall 2012 Freshmen
No Stretch Course attempted	7.2	1.8	1.4	7.7	16.3	10.6
Exempt (GE English completed at entry)	0.0	0.0	0.0	0.1	0.5	0.2
<i>Not Exempt</i>	7.2	1.8	1.4	7.6	15.8	10.3
Stretch Course Attempted	92.8	98.2	98.6	92.3	83.7	89.4
113A course offered by	47.2	77.7	93.7	17.7	12.5	31.4
<i>English</i>	36.4	4.5	65.0	11.0	10.5	19.9
<i>Chicano Studies</i>	5.1	19.9	17.8	3.7	0.5	5.0
<i>Asian American Studies</i>	3.5	44.0	4.6	0.8	1.0	4.2
<i>Pan African Studies</i>	1.5	8.6	3.3	1.4	0.4	1.6
<i>Central American Studies</i>	0.7	0.6	3.1	0.8	0.1	0.8
114A course offered by	29.5	15.5	4.8	41.5	18.9	23.5
<i>English</i>	23.5	2.4	4.7	29.3	14.9	17.3
<i>Chicano Studies</i>	2.6	1.5	0.1	5.4	2.0	2.6
<i>Asian American Studies</i>	1.2	9.2	0.0	2.3	1.2	1.8
<i>Pan African Studies</i>	1.3	2.1	0.0	2.5	0.5	1.1
<i>Central American Studies</i>	0.9	0.3	0.0	2.0	0.2	0.7
115 course offered by	16.1	5.1	0.0	33.2	52.3	34.5
<i>English</i>	9.6	2.4	0.0	20.5	36.5	23.2
<i>Chicano Studies</i>	3.5	1.8	0.0	7.0	8.0	5.9
<i>Central American Studies</i>	2.0	0.3	0.0	3.0	4.0	2.8
<i>Asian American Studies</i>	0.3	0.3	0.0	1.2	2.9	1.7
<i>Pan African Studies</i>	0.6	0.3	0.0	1.4	0.9	0.8
Total (Number of students)	100.0 (684)	100.0 (336)	100.0 (702)	100.0 (1,363)	100.0 (2,732)	100.0 (5,817)

^ Includes the Fresh Start EOP students.

Type of Stretch course attempted: Chi square = 2709.82 (.000); df=12 Cramer's V=.394

Table 33. Fall Term Mathematics Courses Attempted by Freshmen Entering in Fall 2013 by Participation in Summer Mathematics Programs

Course	Should Have Partic. in Early Start	Summer Bridge Programs	Early Start Participants		Early Start Participants - Writing only	Exempt from Early Start	All Fall 2012 Freshmen
			Online ^ (1-2-units)	Face to face (3 units)			
No Mathematics Course attempted	5.7	5.7	7.6	13.5	17.3	23.3	15.2
Exempt (GE Math completed at entry)	0.0	0.0	0.1	0.0	0.0	0.6	0.3
Not Exempt	5.7	5.7	7.5	13.5	17.3	22.7	14.9
Mathematics Course Attempted	94.3	94.3	92.4	86.5	82.7	76.7	84.8
Remedial Course	83.3	83.0	82.8	66.4	33.7	11.8	47.1
<i>Math 092</i>	35.2	34.2	24.1	6.9	12.8	5.7	16.2
<i>Math 093</i>	46.9	48.8	58.7	59.5	18.4	4.5	29.9
<i>Math 096S</i>	1.2	0.0	0.0	0.0	2.6	1.6	1.0
GE Course	11.0	11.3	9.6	20.1	49.0	64.9	37.6
<i>Math 102</i>	5.4	2.4	2.9	10.9	15.3	16.3	10.3
<i>Math 140</i>	2.5	3.3	2.5	1.8	13.8	15.1	8.8
<i>Math 103</i>	1.3	3.3	1.7	4.4	9.2	13.9	7.9
<i>Math 131</i>	0.9	1.8	2.2	2.9	5.6	13.1	7.3
<i>Math 150A</i>	0.4	0.6	0.1	0.0	3.1	3.5	1.9
<i>Math 105</i>	0.0	0.0	0.1	0.0	1.0	1.7	0.8
<i>Math 255A</i>	0.4	0.0	0.1	0.0	1.0	1.2	0.7
Total (Number of students)	100.0 (684)	100.0 (336)	100.0 (1,595)	100.0 (274)	100.0 (196)	100.0 (2,733)	100.0 (5,818)

^ Includes the Fresh Start EOP students.

Type of Math course attempted (remedial vs. GE): Chi square = 2535.43 (.000); df=5 Cramer's V=.717