

Milestones: Persistence Rate 30 Units Rate

Five Year Trends

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Executive Summary

Purpose and Scope

- This report assesses two momentum point metrics included in the Scorecard reported by the California Community College Chancellor's Office: Persistence Rate and 30 Units Rate based on five cohorts. The analysis follows each cohort for six years examining whether goals were met within that period.
- The report's objectives are to make policymakers, local college officials, and elected boards aware of system and college performance in specific areas of effort and to inform the public about overall system performance.
- As with all research, certain limitations must be considered. The limitations include the following:
 - This report covers only those students who met qualifications for membership in the various cohorts.
 - This report covers only specific outcomes that are defined as success.
 - The analysis is based on data publicly available on the State Chancellor's Office Data Mart.
 - Short-term trend analysis demands a considered approach.

Key Findings

- On both Persistence Rate and 30 Unit Rate, Saddleback College exceeds State-wide trends when overall cohorts are considered.
- Of the six milestone measures analyzed, Saddleback College only shows a decrease in 5-year trend related to 30 Unit completion for the college-unprepared cohort segment.
- The demographic composition of the cohorts indicates growing participation by Hispanic students. This is of particular importance to efforts to achieve equity goals.
- The evaluation of equity goals is severely constrained by the small number of students in some ethnic groups.

Introduction

The Scorecard was developed in 2012 and is the current accountability framework for all 113 California Community Colleges (CCC). The purpose of the Scorecard is to provide stakeholders with clear and concise information about student progress and success. The core of the framework is a series of college level measures. These measures reflect the breadth and scope of community colleges diverse missions and provide a standardized view of each college's performance across areas.

This report examines two Scorecard metrics indicating retention and persistence rates for students at Saddleback College; Persistence Rate; and the 30 Units Rate. Each metric is calculated for well-defined cohorts, using specific outcomes, and tracks students for a specified period. Saddleback College trend data will be compared to statewide trend data for each metric. Each metric addresses an aspect of the college mission. Five cohorts will be examined.

Scorecard Metrics

Persistence rate. The persistence rate is based on degree/transfer seeking first-time students (same as the degree/transfer completion cohort) who earned at least six units. Success is defined as enrollment in three consecutive primary terms anywhere in the California Community College (CCC) system.

This metric is considered a milestone or momentum point. Research shows that students having sustained enrollment are more likely to succeed.

The persistence rate is reported for the overall cohort, and also disaggregated for college-prepared and college-unprepared (or remedial) students.

30 Units rate. The 30 units rate is based on degree/transfer seeking first-time students (same as the degree/transfer cohort) who earned at least six units. Success is defined as earning at least 30 units anywhere in the CCC system within six years of first enrollment.

This metric is considered a milestone or momentum point. Research indicates that credit accumulation, specifically accumulating 30 units, is positively correlated with completion and wage gain.

The 30 units rate metric is reported for the overall cohort, and also disaggregated for college-prepared and college-unprepared (or remedial) students.

Purpose

The report's objectives are to make policymakers, local college officials, and elected boards aware of system and college performance in specific areas of effort and to inform the public about overall system performance.

Limitations

This report, at best, is based on an analysis of trends in persistence and retention by cohorts, which cover less than half of the total student population at Saddleback College.

Cohorts, once established, will not increase in size. The difficulty encountered in tracking students when they are no longer enrolling in classes on this campus creates a cohort that can only decrease in size over the period of six years.

This report covers only two specifically defined outcomes defined as measures of success. There are certainly many outcomes that students define as success. Some of the alternative success outcomes may, in fact, become part of the scorecard in the future.

Judgments about institutional success should not be based on the outcomes of a single cohort, or even a short-term trend. Bahr, Hom, & Perry (2005) suggest that at least three unique cohorts of the same type (e.g., completion cohorts from 2006-2007, 2007-2008, and 2008-2009) be observed before generating conclusions about a college because this reduces the possibility of identifying a college as 'low performing' based on random variation in the behavior of a single student cohort.

Scope of Report

This report will examine two Scorecard retention metrics; Persistence Rate and the 30 Units Rate. Each metric is calculated for well-defined cohorts, using specific outcomes, and tracks students for a specified period. Saddleback College trend data will be compared to statewide trend data for each metric.

Methods

The Office of Research, Planning and Accreditation (OPRA) examined data publicly available on the California Community Colleges Chancellor's Office Management Information Systems Data Mart (data mart). The data mart provides information about students, courses, student services, outcomes, and faculty and staff. The emphasis of the data mart is to answer the questions of administrators, educators, parents, students, state leaders, and professional organizations. Because the data mart is aimed at supplying information to a wide variety of users, the interface and query functions insure the data are easily accessed and processed.

Data for five cohorts was first extracted on a statewide basis for each of the metrics.

At the second step, data for five cohorts was extracted for Saddleback College for each of the metrics.

Data was exported to SPSS or Excel in order to facilitate analysis and reporting of results.

Charts were prepared to visually present the data to enhance understandability using the charting features of Microsoft Excel. As appropriate, linear trendlines were added to graphs and charts using the trendline function in Microsoft Excel.

Using Cohorts to Measure Persistence and Retention

A cohort is a group of individuals with similar characteristics. A key to successful cohort analysis is defining cohorts that accurately capture the population of interest. The cohorts in this analysis are comprised of students who enter a college, program, or a series of courses during the same academic year. Analyzing students by cohorts allows researchers to follow the

same individuals over time in order to isolate the impact of various treatments (e.g. enrollment at a specific college or in a specific program) from other factors that might influence outcomes. In studies that use different students at each time point, instead of a cohort, a change in outcomes could reflect the impact of a change in the sample rather than the treatment of interest.

The California Community Colleges Chancellor's Office (CCCCO) began using cohorts as a basis of measurement in limited circumstances as early as 2002. In 2004, the Accountability Reporting for the Community Colleges (ARCC) came into use as a result of Assembly Bill 1417.

The original ARCC metrics had smaller cohorts than the Scorecard because there was a higher threshold for inclusion in a cohort. For example, to be identified as a degree/transfer student in ARCC, a student had to have completed 12 units and attempted a college-level math or English courses in their first three years of enrollment. In the Scorecard, they need only complete 6 units and attempt any math or English course in those three years.

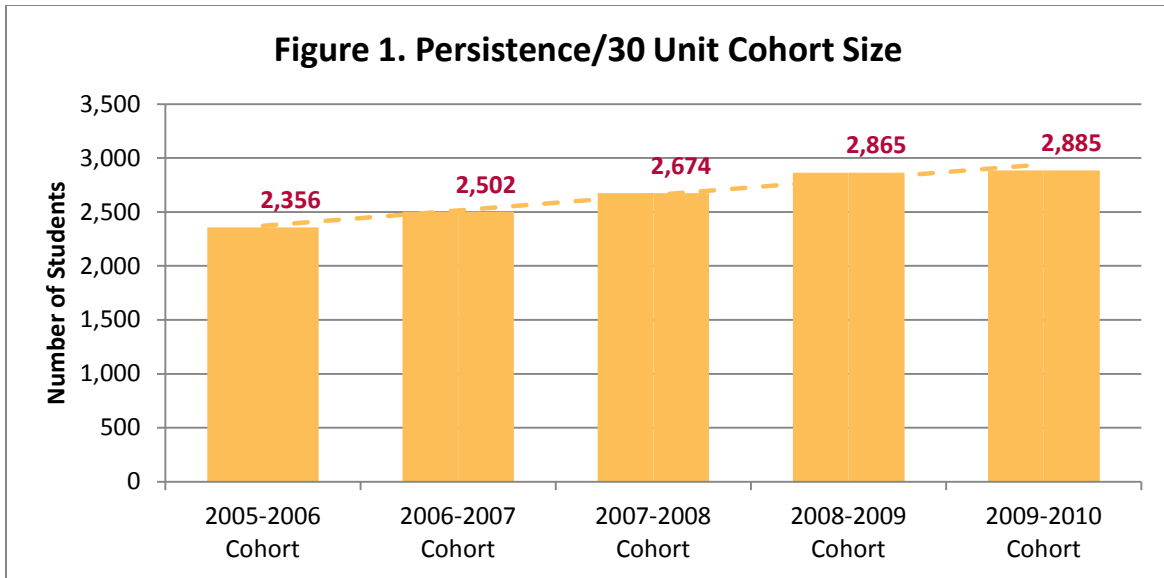
General Comments about Cohort Size and Composition

The size of each cohort relative to the number of enrolled students for each academic year appears small, but each criterion for inclusion is necessary to create accurate cohorts. That being said, it is important to note that, over time, a large number of students enrolled in a particular academic year, e.g. 2008-2009, are incorporated into some cohort even if that cohort is not included in the 2015 Scorecard. While a small percentage of those students were included in a completion or remedial, and were used in the calculation of the 2015 Scorecard metrics (21.5%), many of those excluded are contained within other cohorts and, therefore, other Scorecard metrics. A full 47.4% were placed in a cohort between the 2004-2005 and 2008-2009 academic years and are included in one of the first five Scorecards (2011 through 2015). We should expect that as the number of Scorecards grows the higher a percentage of students will be represented from any given academic year.

Smaller analytic cohorts in the Scorecard are caused by two distinct, nevertheless related, considerations. First, behavioral indicators are relied upon to identify goals because of the lack of reliable data from students regarding educational goals. Second, the varied missions of the system result in a large number of unique student goals. The large number of system missions also may produce students with multiple goals or may lead them to change goals during their career. These students may or may not fall into any outcome cohorts.

The demographic composition of the Persistence and 30 Units cohorts is depicted in the following graphs. Both cohorts are composed of the same students.

Figure 1 shows the increase in the overall cohort size from 2,356 in 2005-2006 to 2,885 in 2009-2010, an increase of 529 students or 22.45%



This rate of increase corresponds closely to the overall enrollment increase during the same period of 21.77%.

This persistence/30 unit cohort can be disaggregated into those students who are “college-prepared” and “college-unprepared”, with the distinction based on whether the student’s lowest attempted Math or English was at the college level (prepared) or was remedial (unprepared.) Figure 2 shows the disaggregated groups at Saddleback College. The percentage of this cohort that is “college-prepared” increased from 41% to 47%, and while this portion of the cohort is still less than half of the total cohort, it is increasing over time. Concomitantly the percentage of the cohort that is “unprepared” is decreasing.

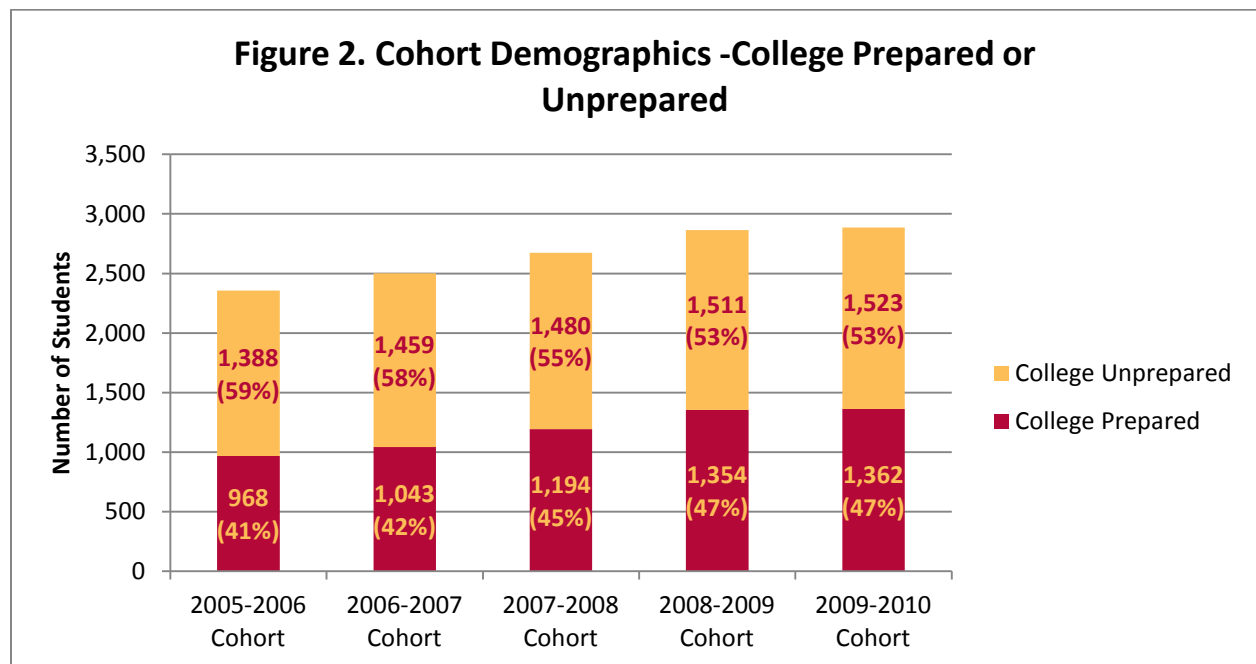
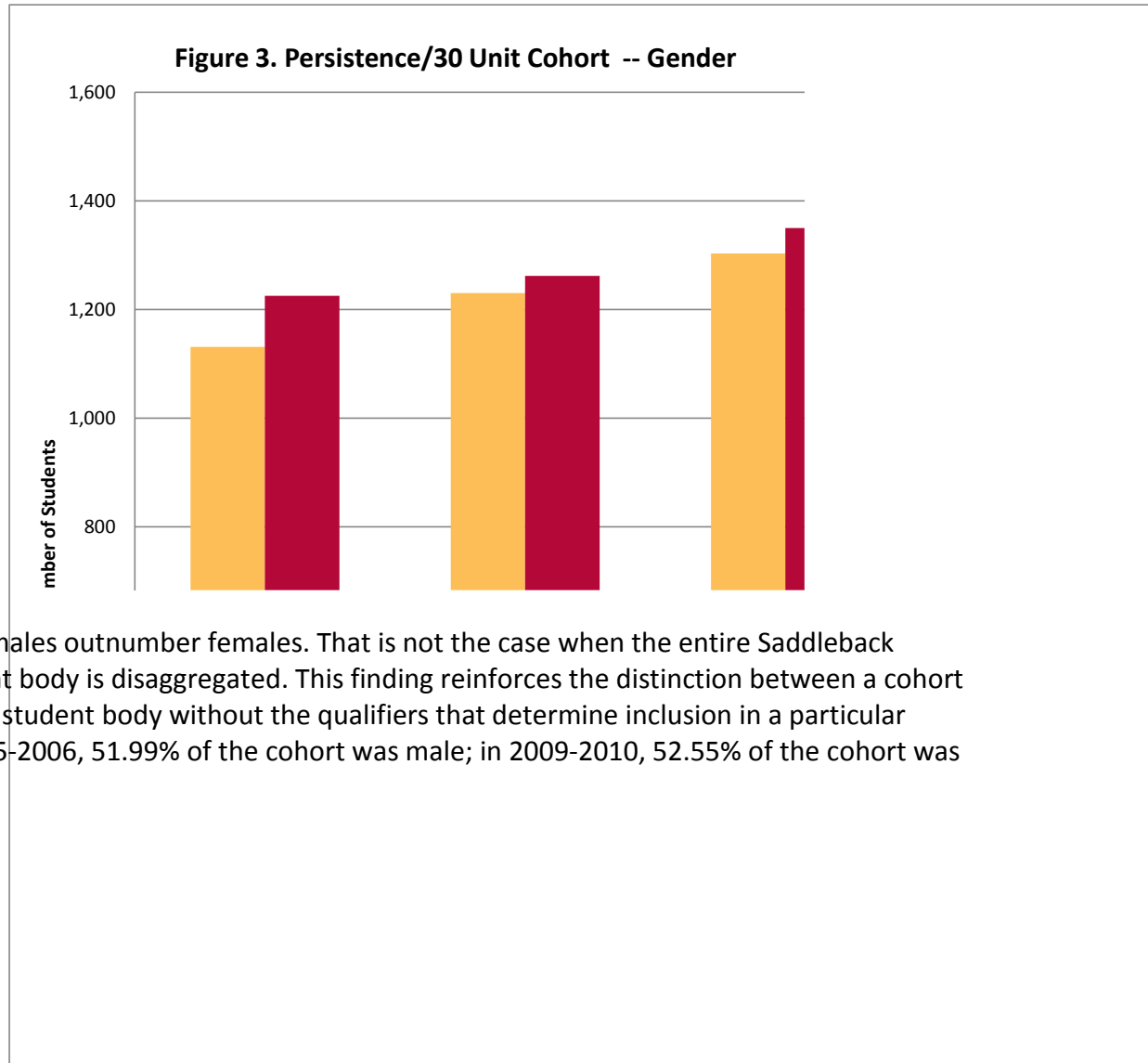


Figure 3 shows the composition of the cohort by gender.



It is rare that males outnumber females. That is not the case when the entire Saddleback College student body is disaggregated. This finding reinforces the distinction between a cohort and the entire student body without the qualifiers that determine inclusion in a particular cohort. In 2005-2006, 51.99% of the cohort was male; in 2009-2010, 52.55% of the cohort was male.

Figure 4. Persistence/30 Unit Cohort Demographics -- Age Groups

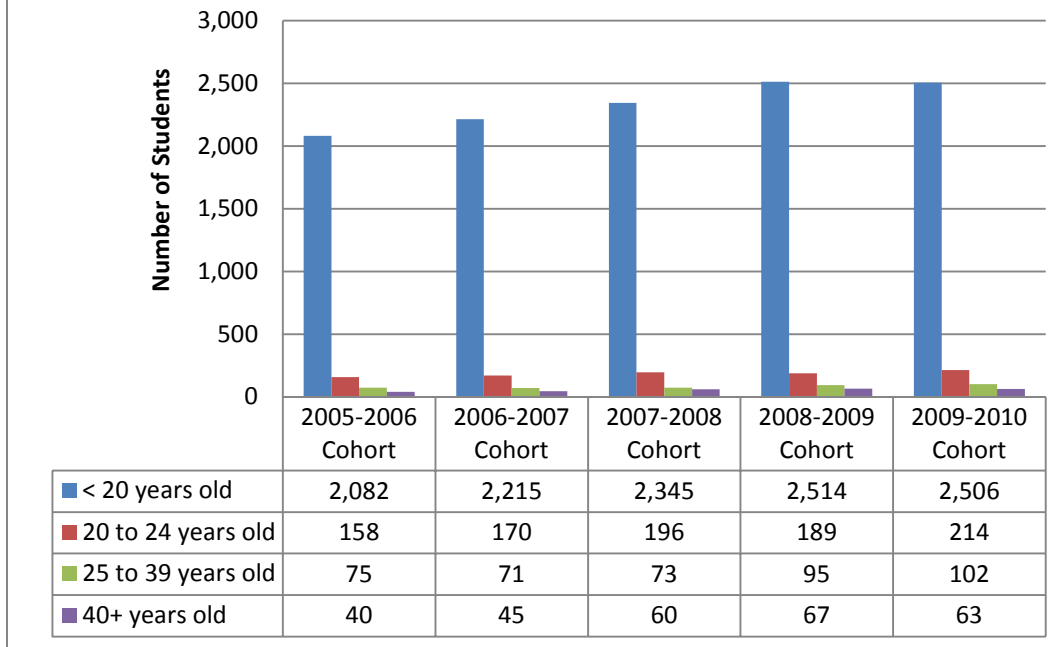
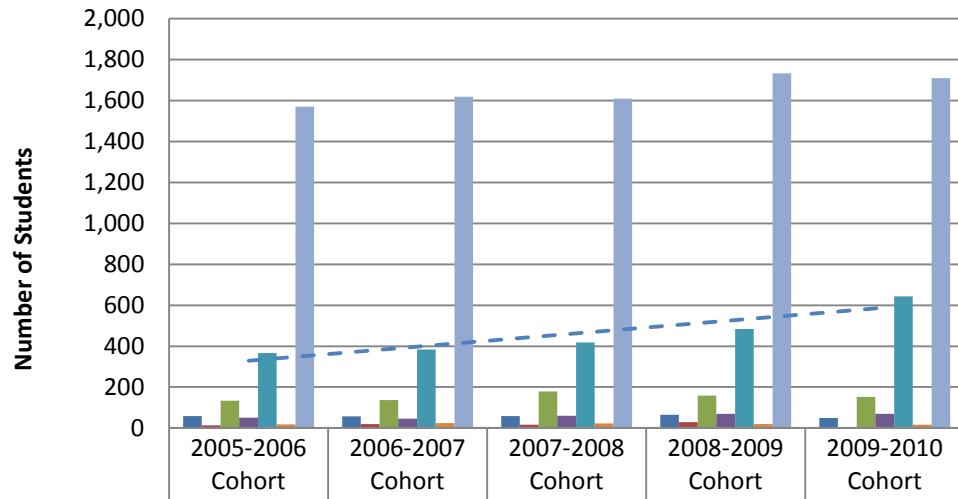


Figure 4 shows the disaggregation of the entire cohort on the basis of broad age groups. The lion’s share, 88.37% in the 2005-2006 cohort decreasing to 86.86% in the 2009-2010 cohort, is less than 20 years of age. In the overall Saddleback College student body, only 22.92% were under 20 years of age in 2005-2006, increasing slightly to 24.29% in 2009-2010.

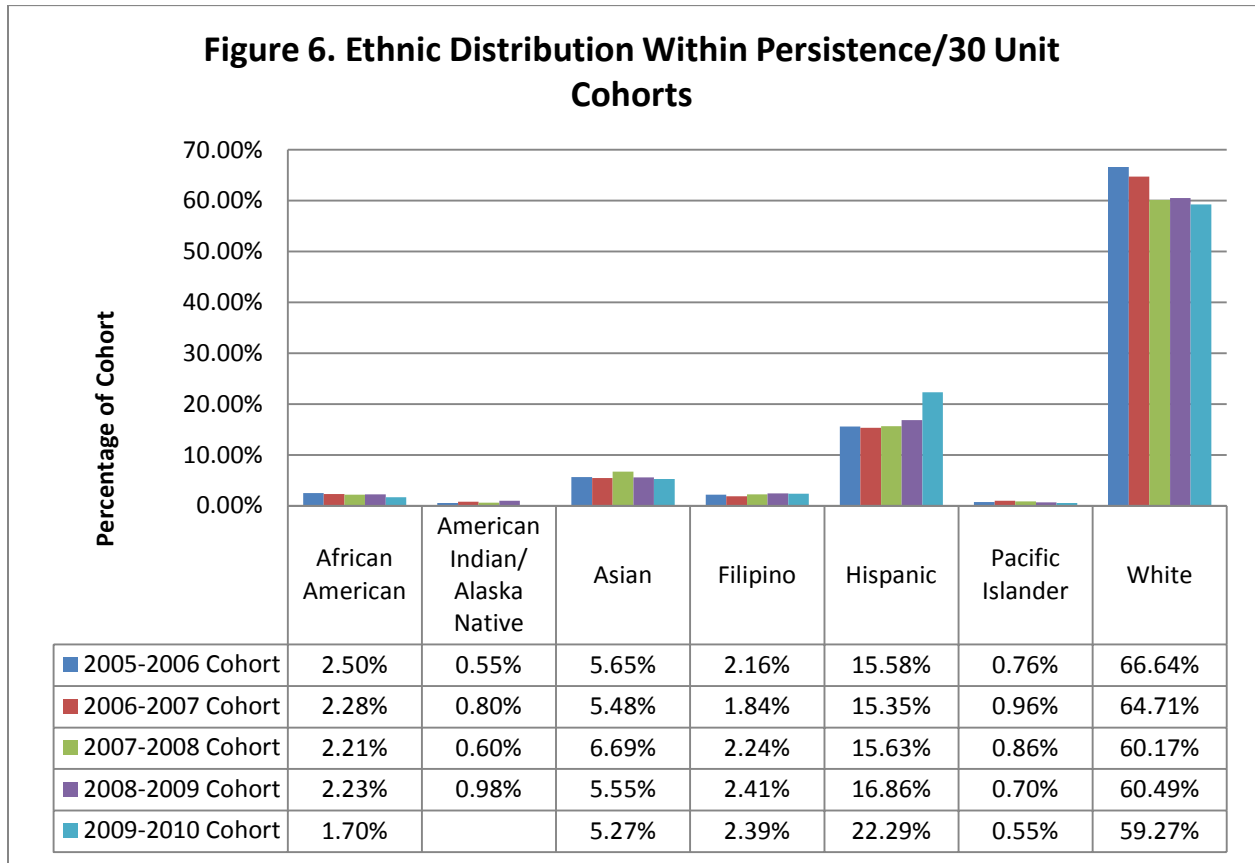
Figure 5 shows the distribution of broad ethnic groups within cohorts. Notice that the cell for American Indians/Alaska Natives in the 2009-2010 cohort is intentionally left empty. There were less than ten students in this category. The ethnic composition of the degree/transfer completion cohort has changed over this period. In spite of the percentage of whites in the overall student body remaining relatively stable at 65%, the percentage of whites in the cohort decreased from 66.64% in 2005-2006 to 59.27% in 2009-2010. Asian students made up 8.43% of the student body in 2005-2006 increasing to 8.84% in 2009-2010. However, the percentage of Asian students in the cohort was significantly lower overall and decreased from 5.65% in 2005-2006 to 5.27% in 2009-2010. African American students made up 1.69% of the student body in 2005-2006 decreasing to 1.56% in 2009-2010. They are over-represented in all yearly cohorts, though their percentage of the cohort is decreasing, from 2.5% in 2005-2006 to 1.7% in 2009-2010. Hispanic students account for 12.55% of the overall student body in 2005-2006 increasing to 14.69% in 2009-2010. In the five cohorts, they account for between 15.50% and 22.29%. This finding is of particular importance when considering the impact on Student Equity initiatives.

Figure 5. Persistence/30 Unit Cohort -- Ethnic Groups



■ African American	59	57	59	64	49
■ American Indian/ Alaska Native	13	20	16	28	
■ Asian	133	137	179	159	152
■ Filipino	51	46	60	69	69
■ Hispanic	367	384	418	483	643
■ Pacific Islander	18	24	23	20	16
■ White	1,570	1,619	1,609	1,733	1,710

Figure 6 shows the ethnic groups as a percentage of the total cohort.



Further examination of the Hispanic composition of the overall cohort reveals that the number of students in both the “college-prepared” and the “college-unprepared” increased at a steady rate over the five cohorts. Figure 7 illustrates the growth in numbers during the period. The trendlines for both segments of the cohort are parallel, indicating that the growth in the number of Hispanic was evenly distributed between the segments.

Figure 7. Distribution of Hispanic Students Within Persistence/30 Unit Cohorts

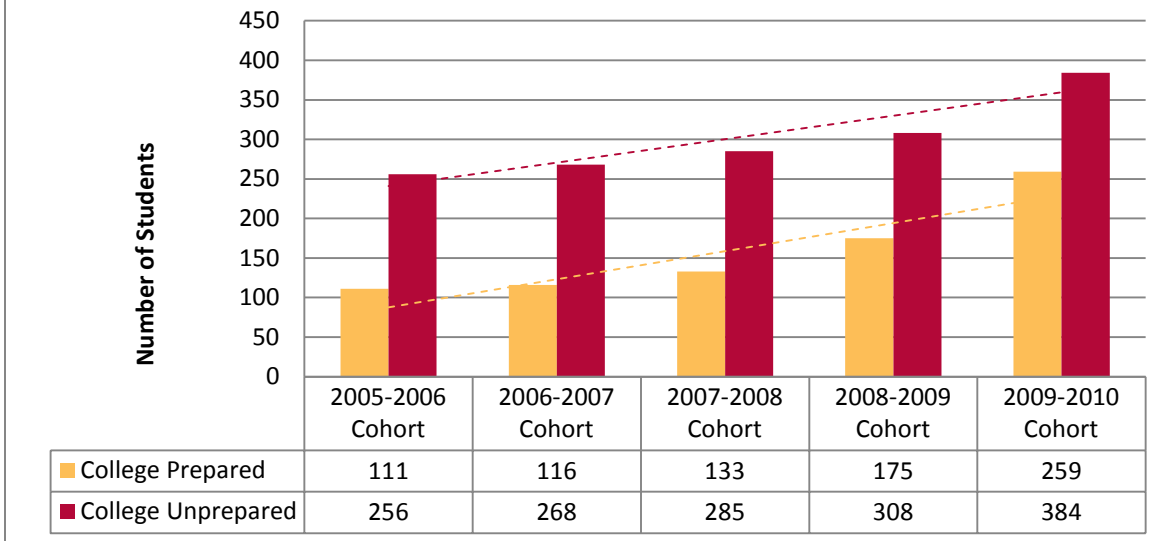
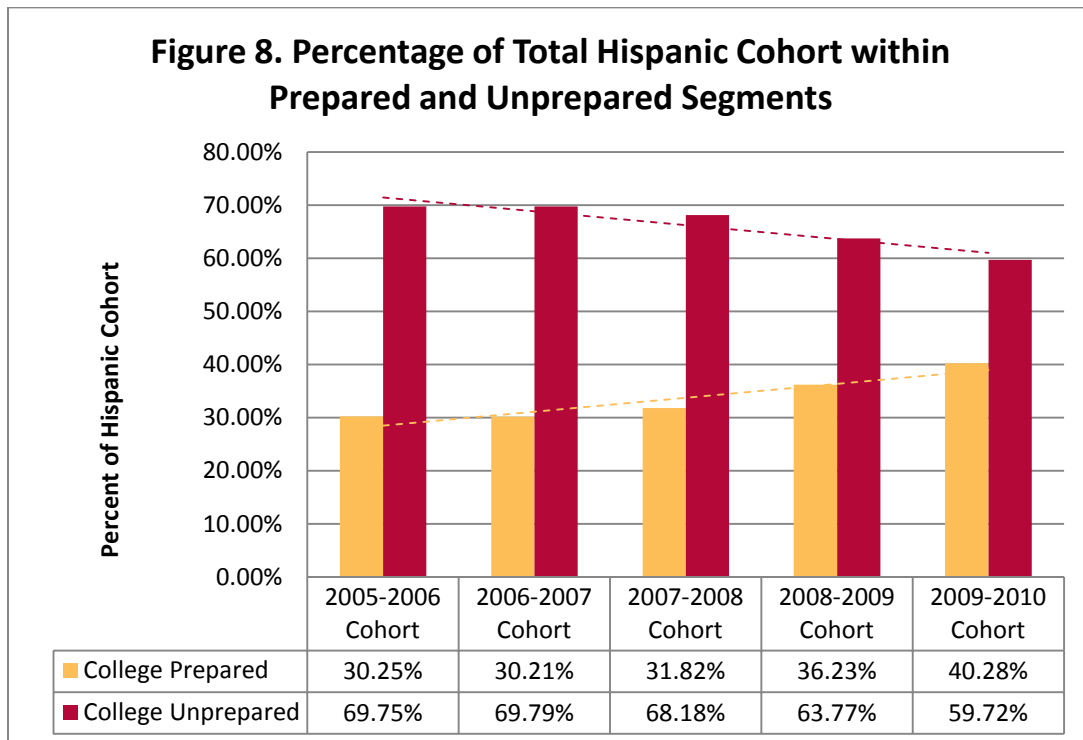


Figure 8 shows the growth in the percentage of Hispanic students in the “college-prepared” and “college-unprepared” segments of the five cohorts. The trendlines indicate that the “college-prepared” Hispanic students are becoming a larger part of the Hispanic cohort in general over the cohort years.

Figure 8. Percentage of Total Hispanic Cohort within Prepared and Unprepared Segments



Results

The results will be organized by metric. In order of presentation, not importance: the first is the Persistence Rate, the second is 30 Units Completion Rate.

Persistence Rate

Figure 9 shows the persistence rate for the overall cohort for both Saddleback College and statewide. The persistence rate at Saddleback College exceeds the persistence rate statewide by at least 5.4% (2005-2006 cohort) and as much as 8% (2006-2007 cohort). The overall persistence rate at Saddleback College increased from 76.3% to 78.5% over the five years. Both Saddleback College and statewide data indicate an increasing trend, although the trend for Saddleback College is increasing faster than statewide (the trendlines are not parallel.) As is usually the case, Saddleback College's smaller cohort size contributes to more variability the much larger statewide cohort size.

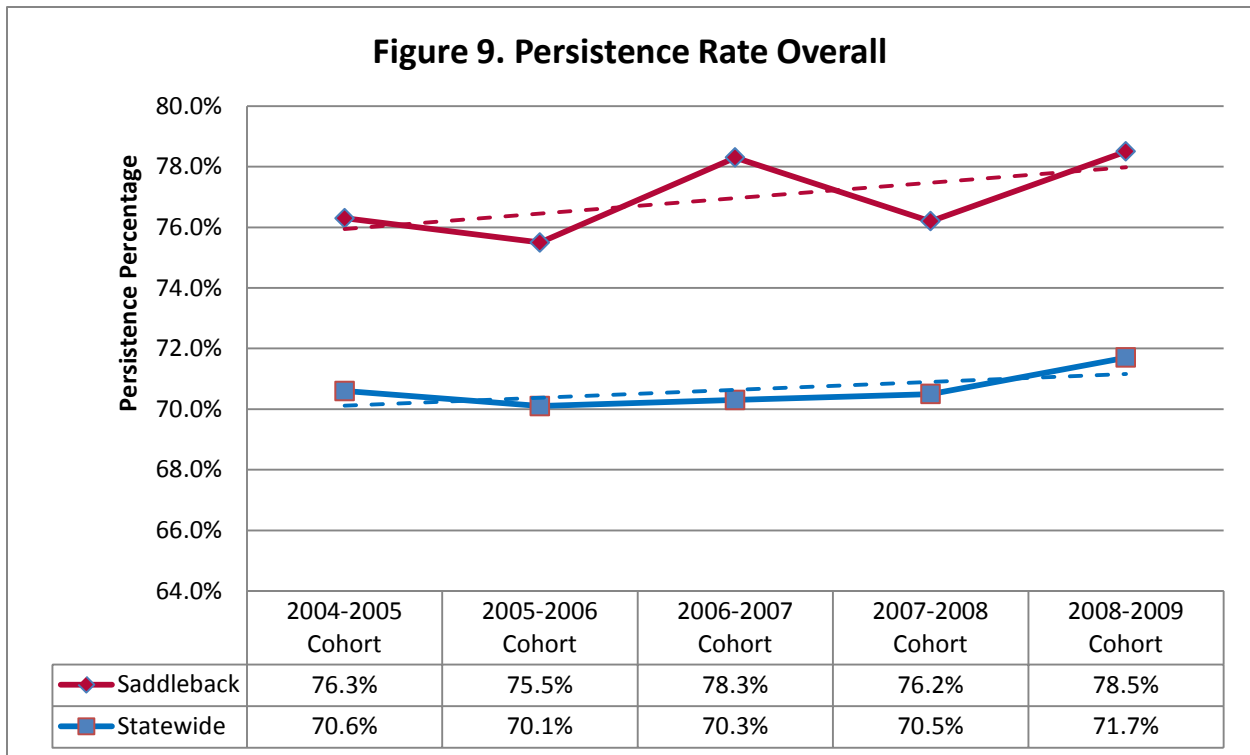
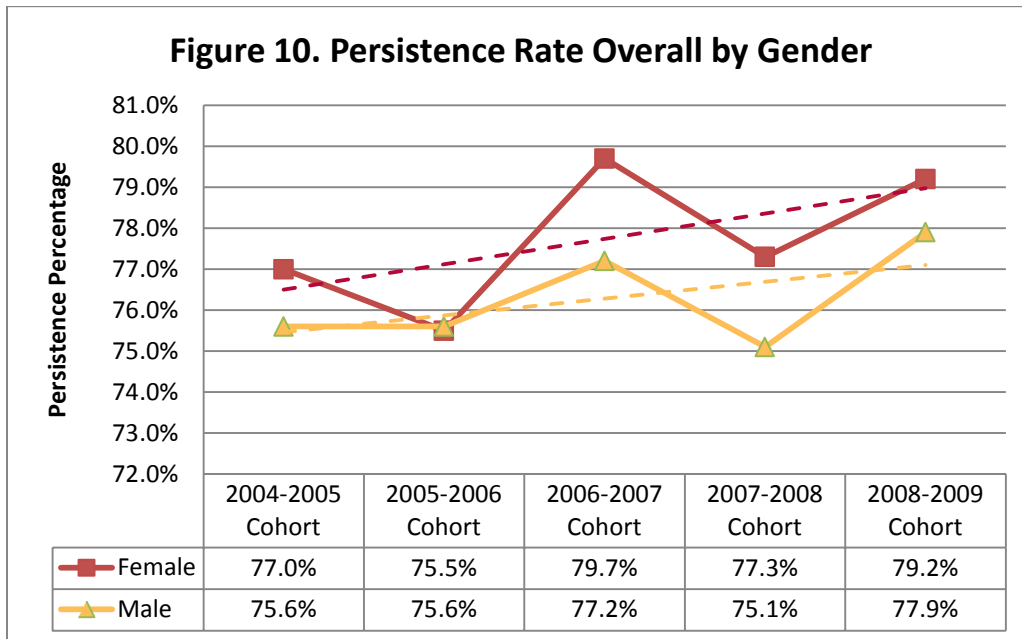
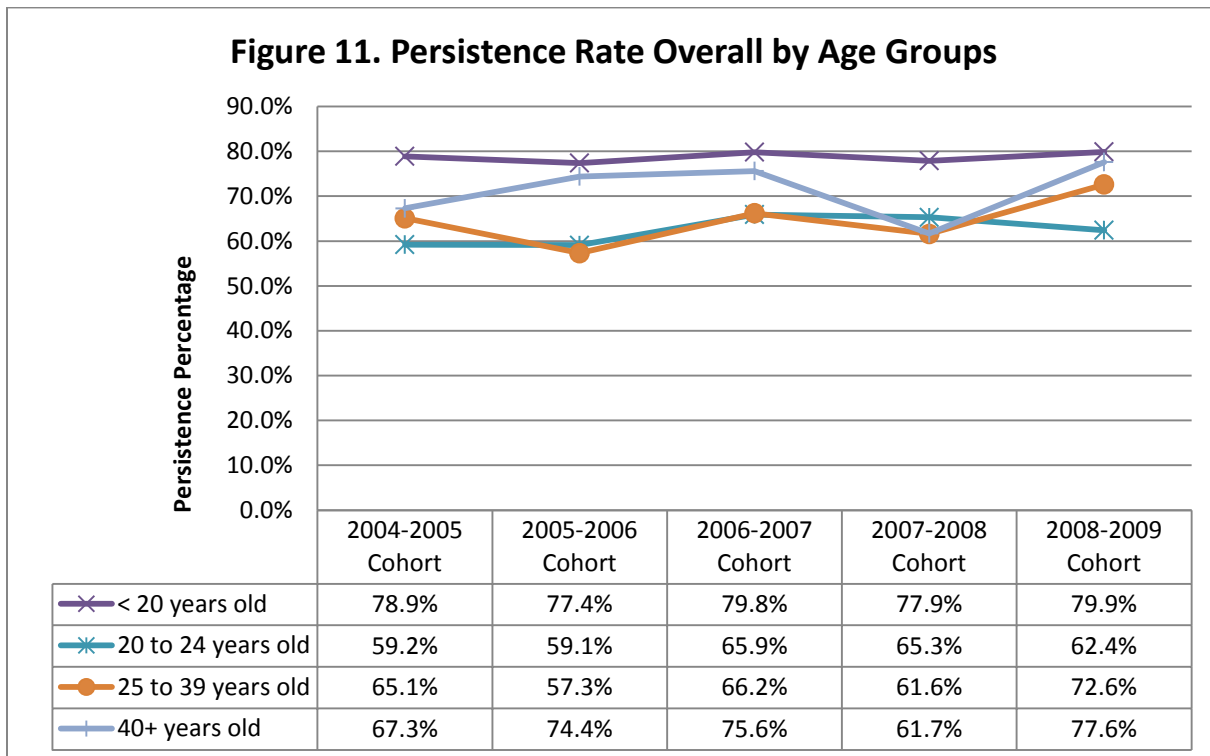


Figure 10 shows the persistence rate when the overall cohort is disaggregated by gender.

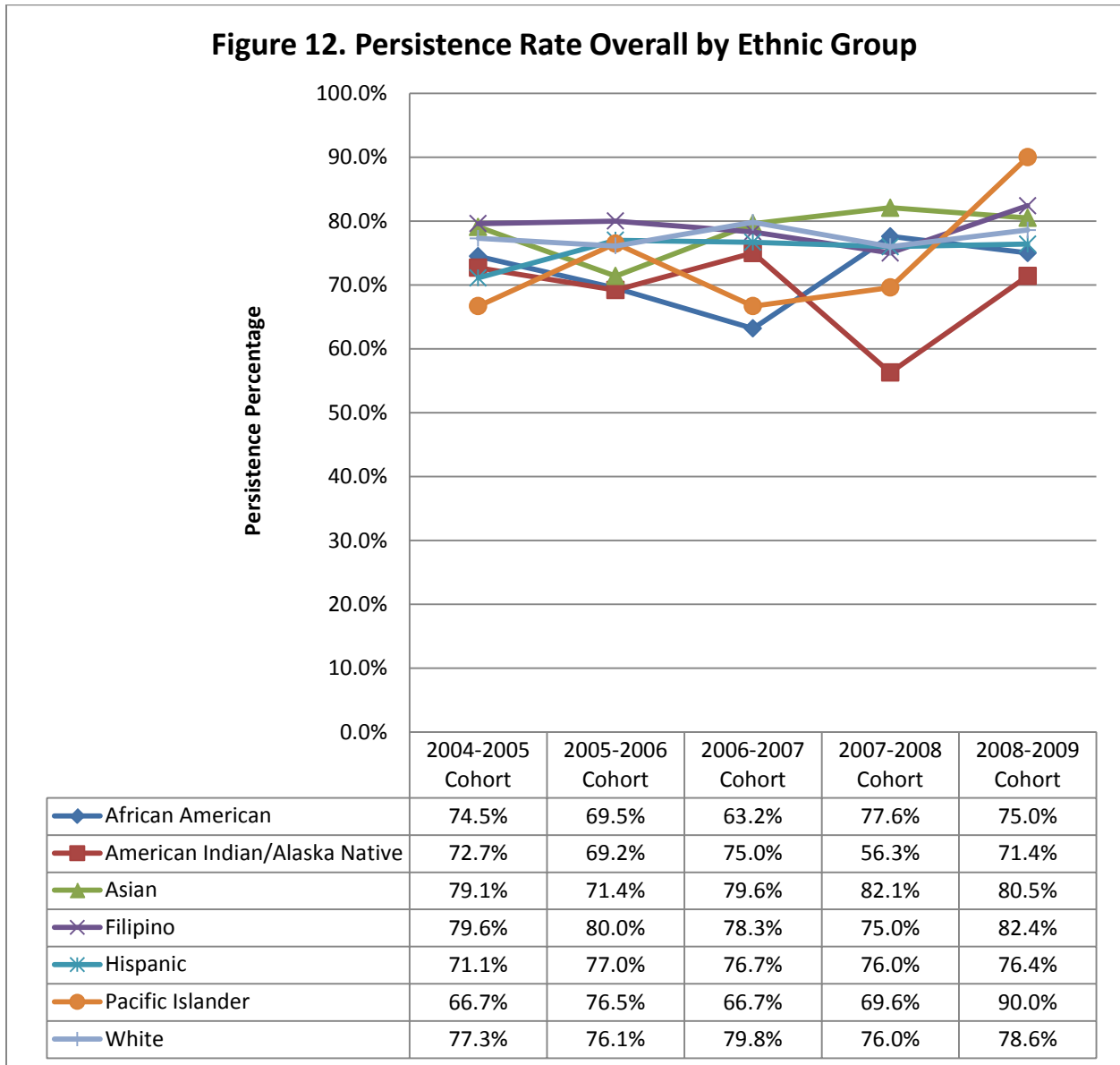


The trendline shows the persistence rate for females increasing at a faster rate than for males. Figure 11 shows the persistence rate disaggregated by broad age groups.



The age group with the lowest persistence rate is those who were between 20 and 24 years of age at entry.

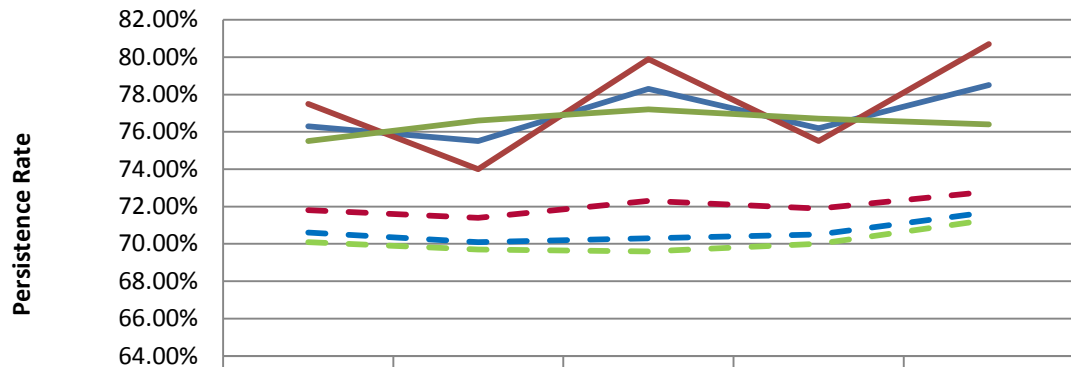
Figure 12 shows the overall persistence rate by ethnic groups.



All groups showed an increase in persistence over the five cohorts with the exception of American Indian/Alaska Natives, who showed a decrease 1.3%. The Pacific Islander group showed an increase from 66.7% to 90% over the five cohorts. However, cautious analysis recognizes that both the slight decrease and the very large increase may be statistical artifacts related to the very small number of students in the cohort from these ethnic groups.

Figure 13 shows the persistence rate for the overall cohort, college-prepared, and college-unprepared groups, allowing for a comparison of Saddleback College (solid lines) to the State-wide rate (dashed lines.)

**Figure 13. Saddleback College and Statewide Trends
in Persistence Rates by Level of Preparation**



	2004-2005 Cohort	2005-2006 Cohort	2006-2007 Cohort	2007-2008 Cohort	2008-2009 Cohort
— Saddleback Overall	76.30%	75.50%	78.30%	76.20%	78.50%
— Saddleback Prepared	77.50%	74.00%	79.90%	75.50%	80.70%
— Saddleback Unprepared	75.50%	76.60%	77.20%	76.70%	76.40%
- - Statewide Overall	70.60%	70.10%	70.30%	70.50%	71.70%
- - Statewide Prepared	71.80%	71.40%	72.30%	71.90%	72.80%
- - Statewide Unprepared	70.10%	69.70%	69.60%	70.00%	71.30%

The rate for the college prepared segment and the overall cohort show the same pattern of increase and decrease for both Saddleback College and Statewide. The variability in the college-prepared segment appears greater for Saddleback College, probably due, at least in part, to the smaller number of students in this cohort segment (ranging from 911 students in 2004-2005 to 1,352 students in 2008-2009) when compared to the statewide prepared segment of the cohort (ranging from 42,866 students in 2004-2005 to 52,331 students in 2008-2009.) Very large N's tend to dampen variability.

The additive effect in terms of number of persisting students should be noted. Saddleback College's increasing rate for the prepared segment when combined with an increase in the number of students included in the segment means that 441 more students persisted in 2008-2009 than persisted in 2004-2005, an increase of 48.40% over five academic years.

Saddleback College's persistence rate for the college unprepared segment exceeds the statewide rate. However, the statewide rate is showing an increasing trend, while the Saddleback College rate is showing a decreasing trend.

Figures 14, 15, and 16 are based only on the college prepared segments of all cohorts. Figure 14 shows persistence rate disaggregated by gender; figure 15 shows persistence rate by age groups; and figure 16 shows persistence rate by ethnic groups.

Figures 17, 18, and 19 are based only on the college unprepared segments of all cohorts. Figure 14 shows persistence rate disaggregated by gender; figure 15 shows persistence rate by age groups; and figure 16 shows persistence rate by ethnic groups.

Figure 14. College Prepared Persistence Rate by Gender

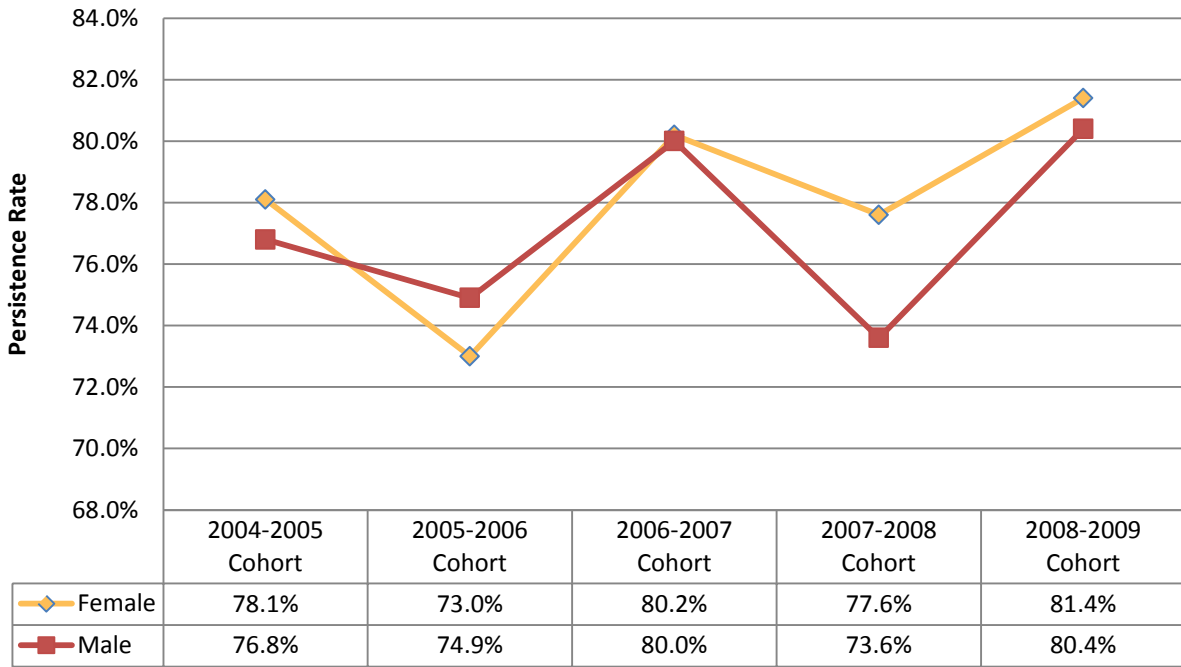


Figure 15. College Prepared Persistence Rate by Age Groups

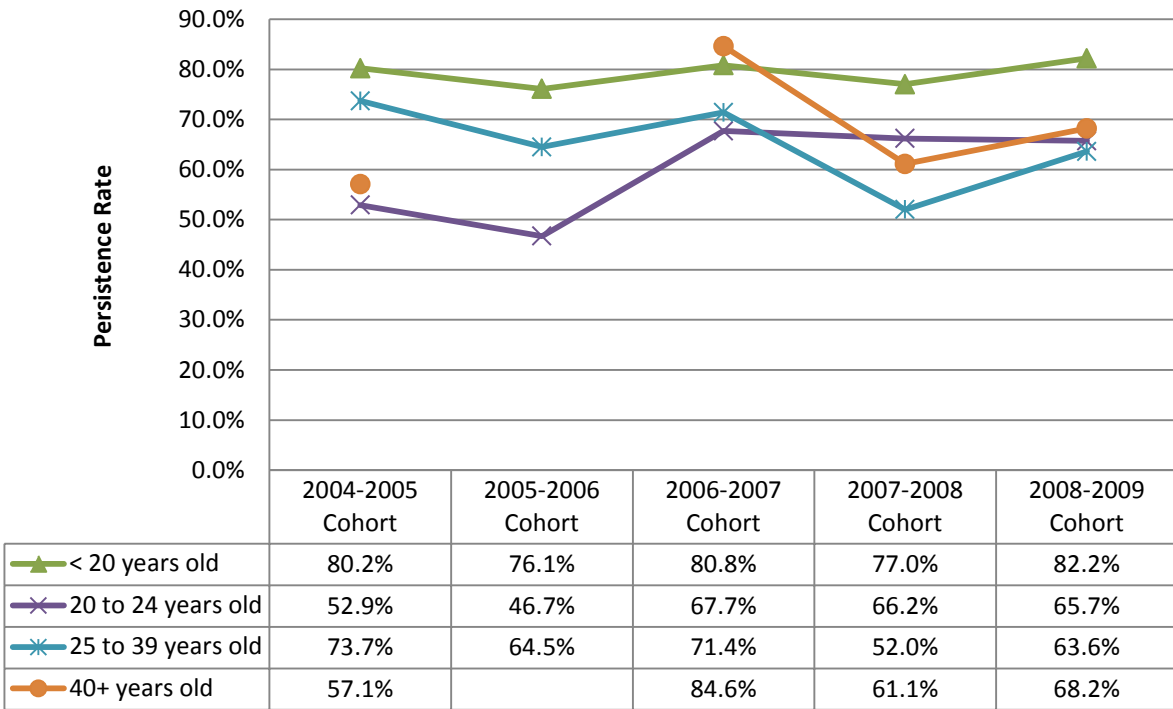


Figure 16. College Prepared Persistence Rate by Ethnic Group

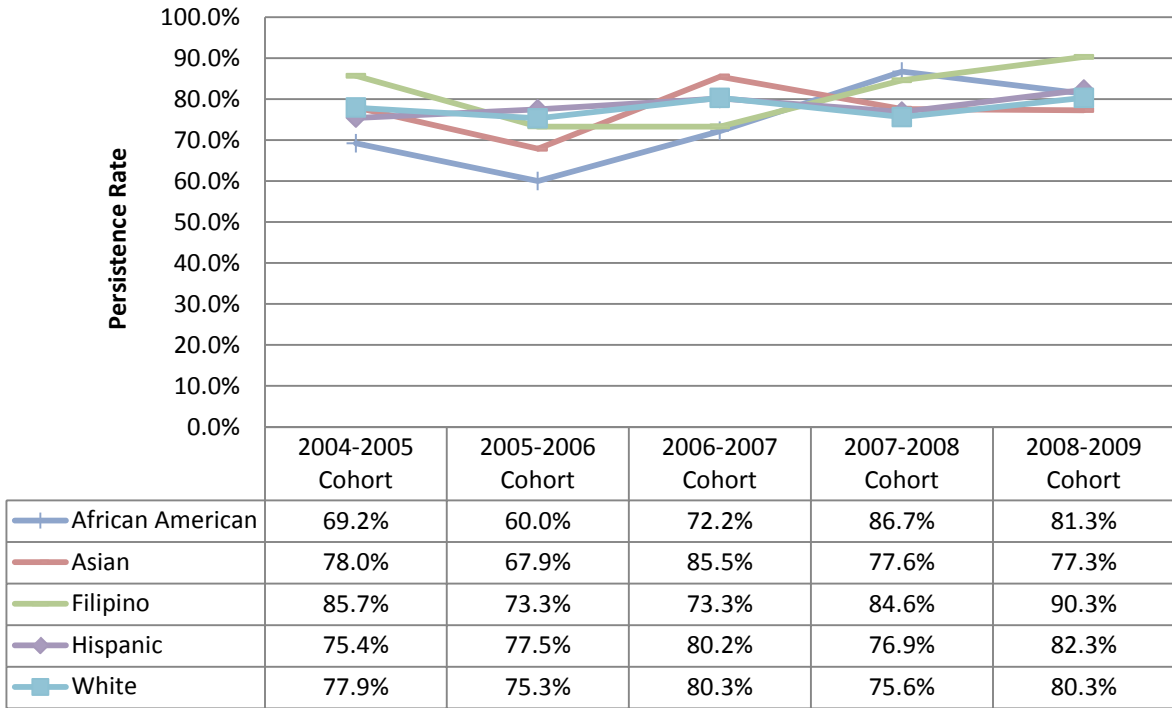


Figure 17. College Unprepared Persistence Rate by Gender

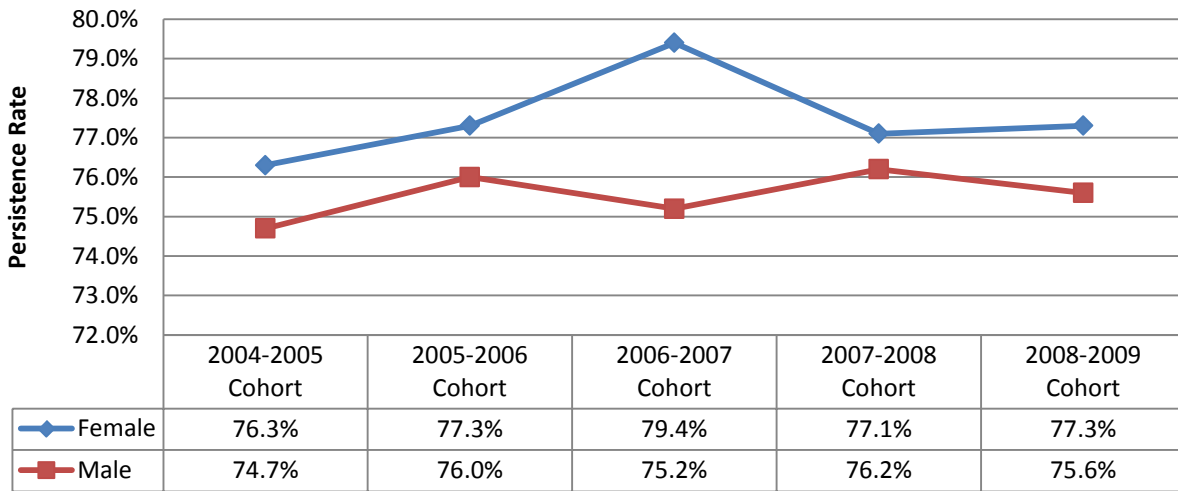


Figure 18. College Unprepared Persistence Rate by Age Groups

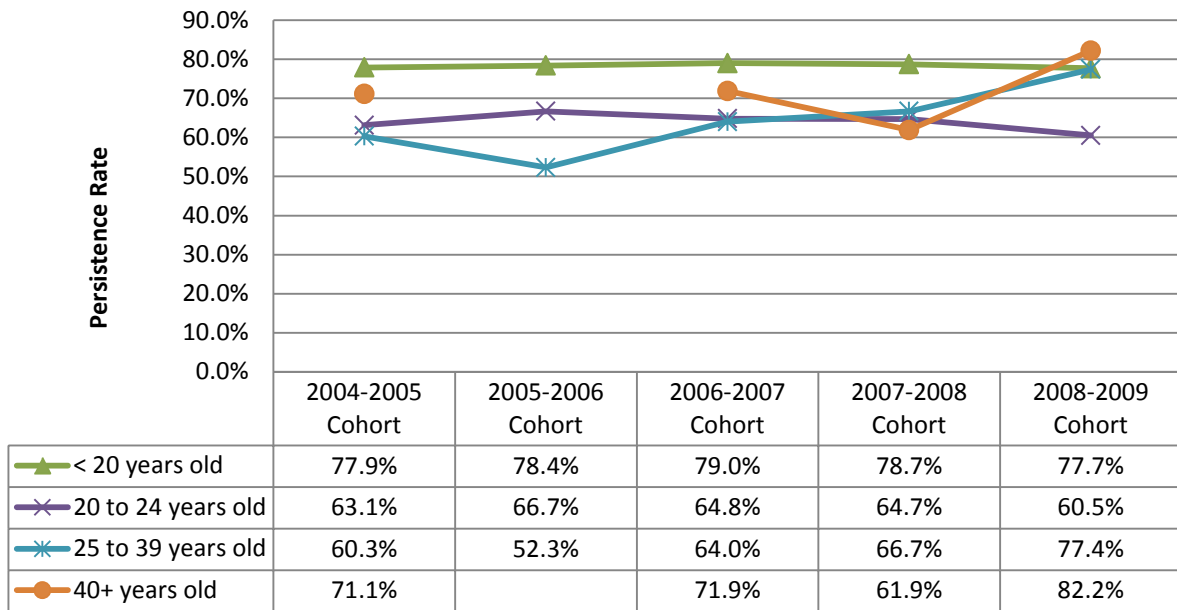
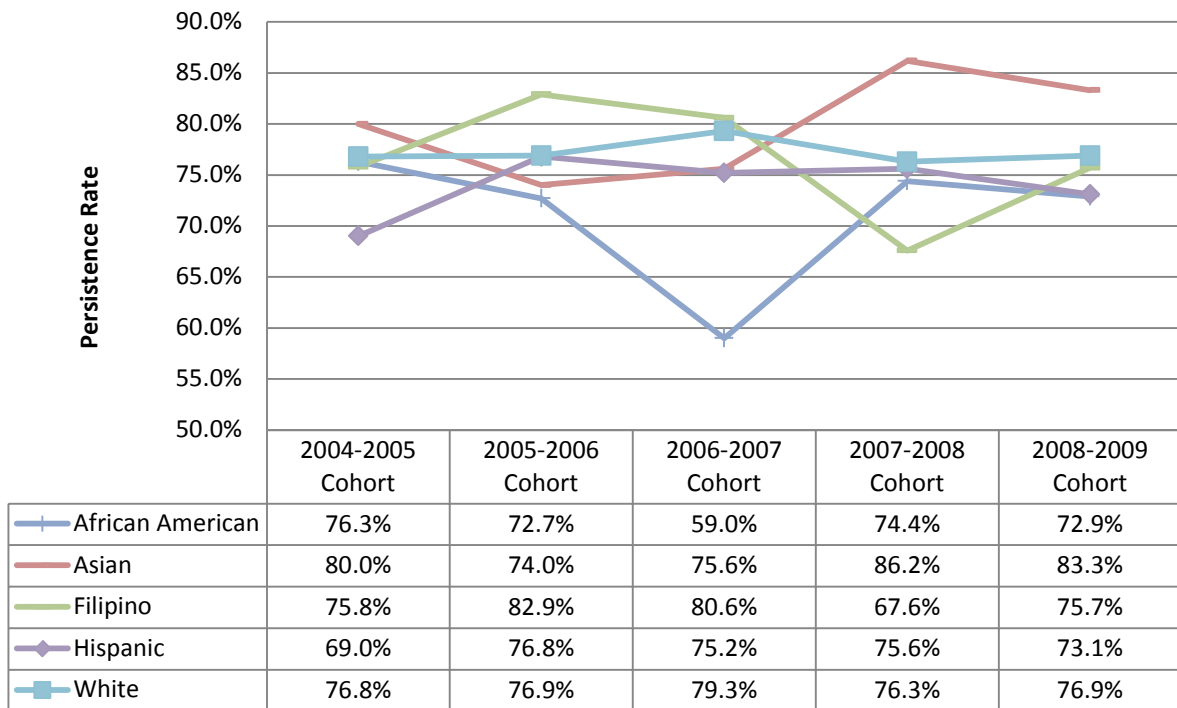


Figure 19. College Unprepared Persistence Rate by Ethnic Groups



30 Unit Rate

Figure 21 shows the 30 Unit Rate for Saddleback College and Statewide total. The equations for the trendlines indicate that the slopes are essentially equivalent (.0028 for Saddleback College and .0038 for statewide total) indicating slight increases for both over the five cohort years. Saddleback College exceeds the statewide total by almost ten percentage points over the same period.

It should be noted that this very slight increase in rate over the five cohorts also means a significant growth in the number of students reaching the 30 unit milestone at Saddleback College and statewide. The cohort at Saddleback College grew from 2,206 to 2,854 students over the five cohorts, an increase of 29.38% or 648 students. The statewide cohort grew from 161,650 to 209,719 students, an increase of 29.74% or 48,069 students.

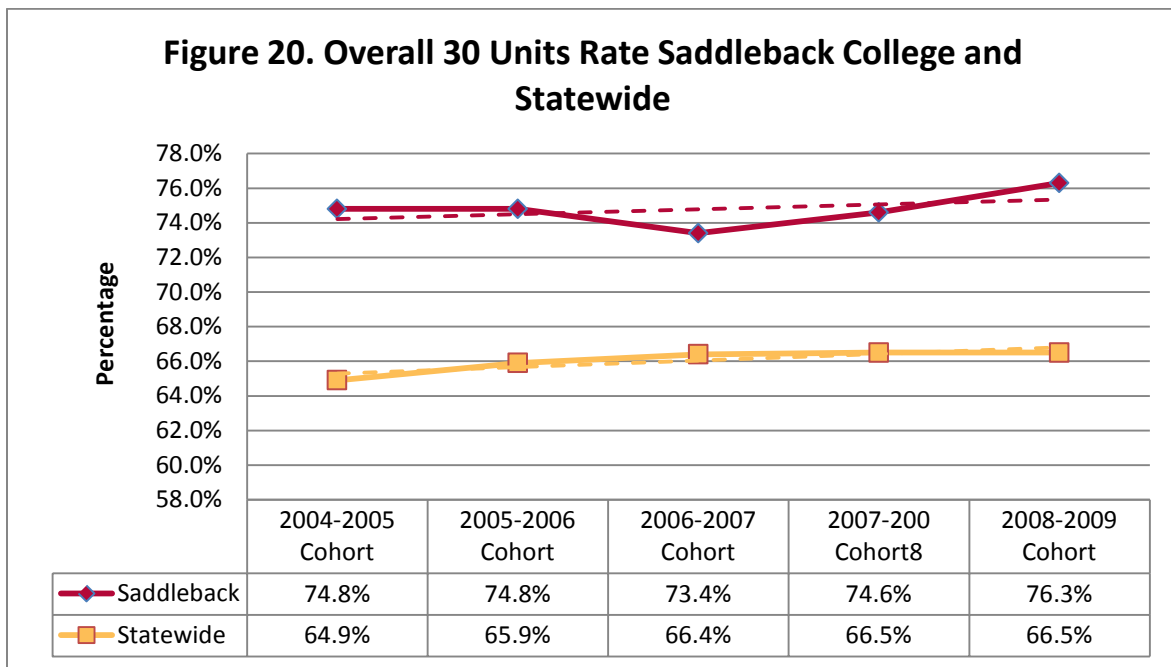


Figure 21 shows the overall 30 units rate disaggregated by gender. With the exception of the 2005-2006 cohort, the rates for males and females follow the typical pattern, the rate for females exceeds the rate for males.

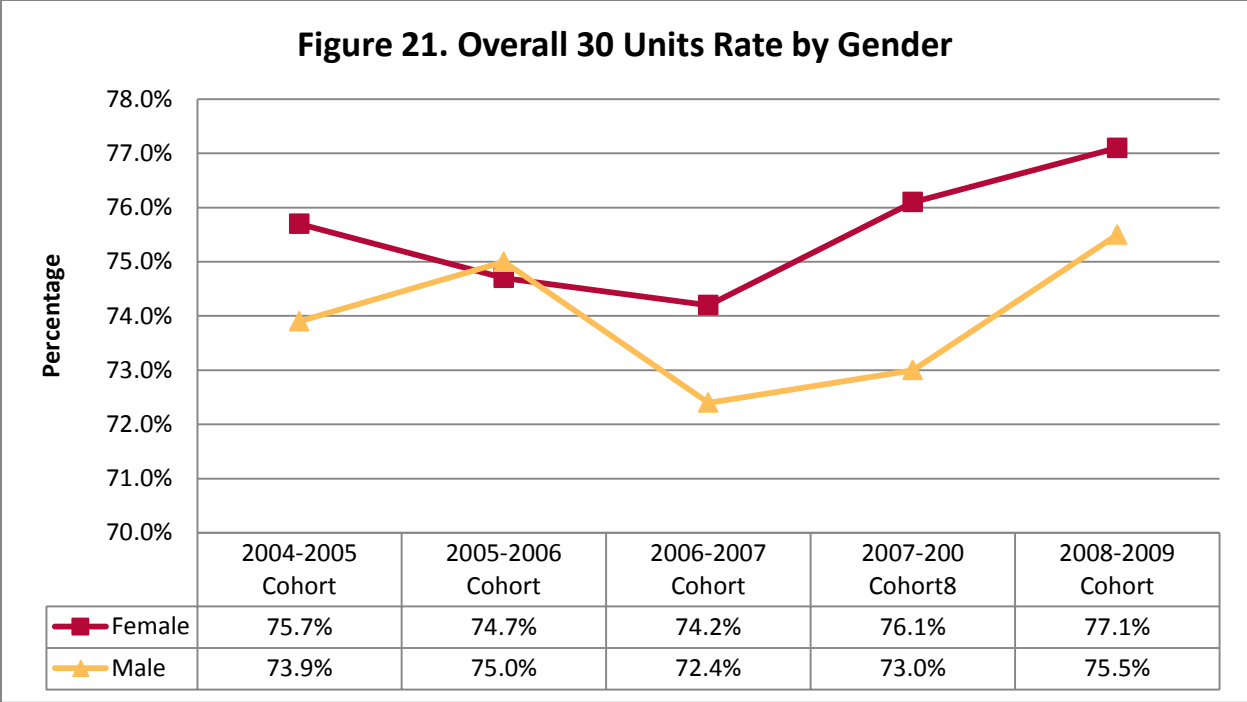
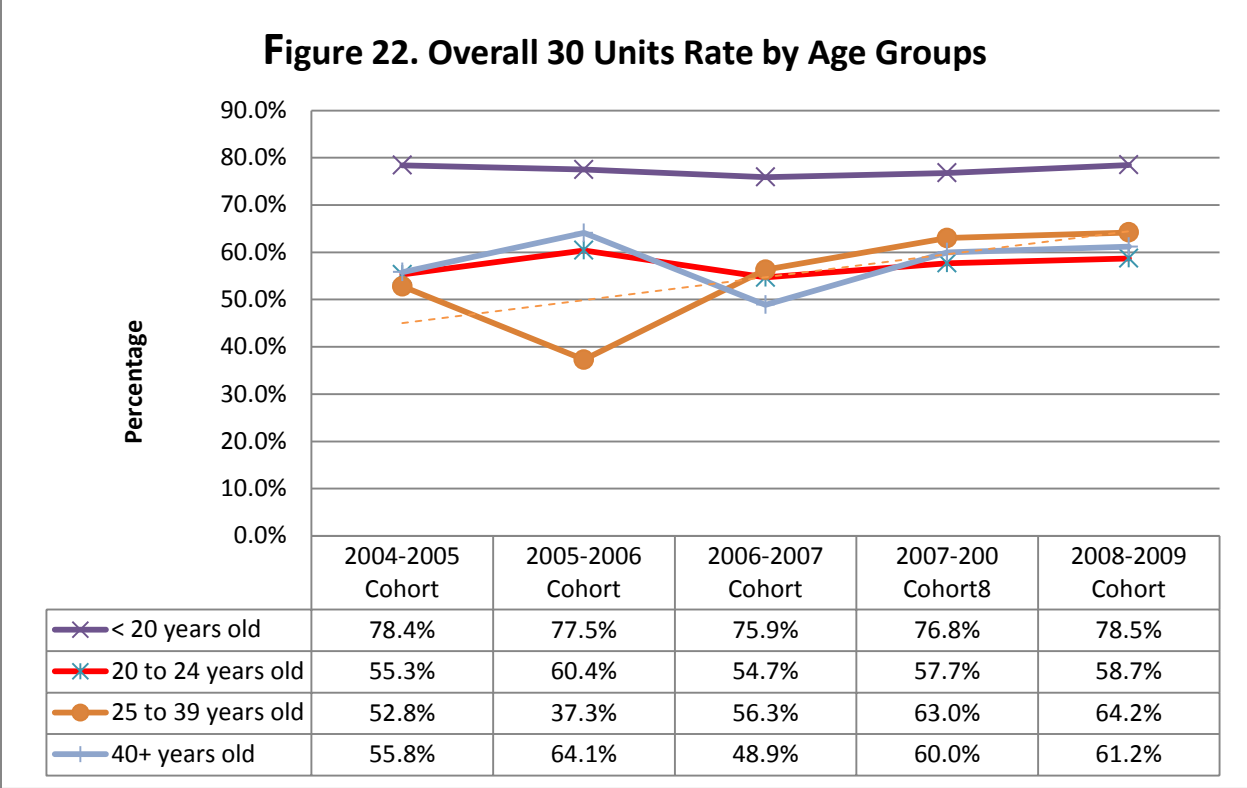
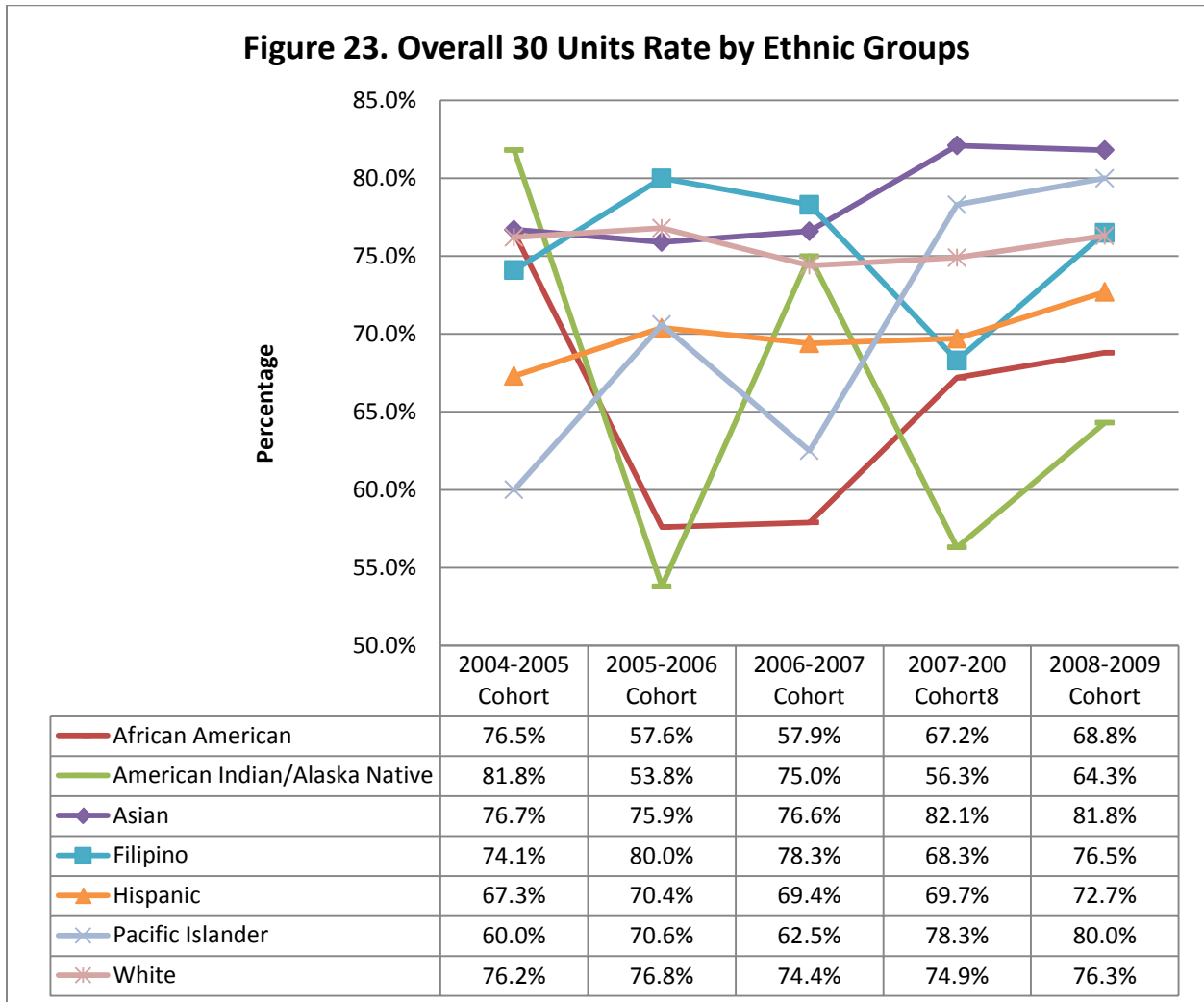


Figure 22 shows the 30 units rate for the overall cohort disaggregated by age groups based on age at year of entry. The group under 20 years old at entry exceeded all other groups



in 30 units rate but have not improved over the five cohorts. The group of students between 25 and 39 years of age at entry showed the greatest rate of increase over the five cohorts.

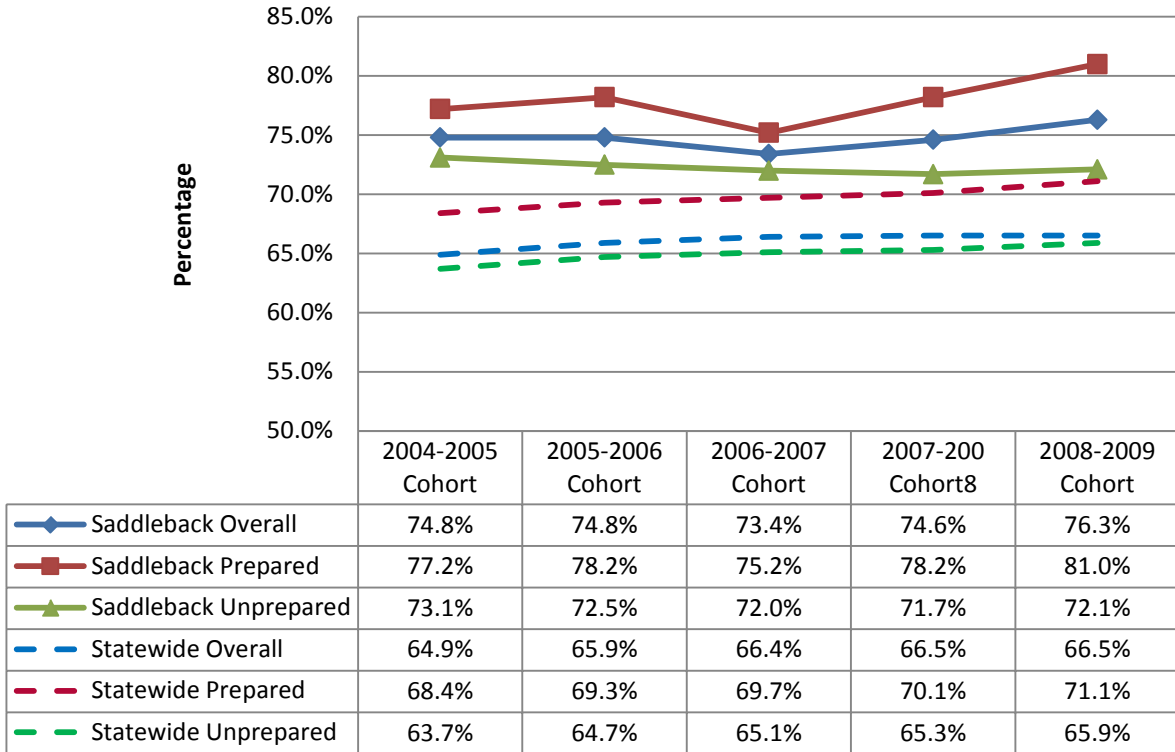
Figure 23 shows the 30 units rate for the entire cohort disaggregated by ethnic groups.



The variability in the American Indian/Alaska Native (11-28 students per cohort), Filipino (46-68 students per cohort), Pacific Islander (17-30 students per cohort), and African American (51-64 students per cohort) group rates over the five cohorts may be attributable, in part, to the small number of students in the group. In the case of the African American group (51 students in 2004-2005 cohort) a 30 unit rate of 76.5% indicates that 39 students met criteria for success. If only 2 more students meet criteria for success the rate increases to 80%. The apparent precipitous drop from 76.5% in 2004-2005 to 57.6% in 2005-2006 represents a difference of 6 unsuccessful students based on group size. Small groups demand cautious analysis.

Figure 24 shows the 30 units rate for the overall cohort and the college-prepared, and college-unprepared segments allowing for a comparison of Saddleback College (solid lines) to the State-wide rates (dashed lines.) For both the prepared and unprepared segments the 30 units rate at Saddleback College exceeds the statewide rate.

Figure 24. Saddleback College and Statewide Trends in 30 Unit Rate by Level of Preparation



The 30 unit rate for the college unprepared segment at Saddleback College shows a decline over the five cohorts. All other segments showed an increase in rate.

Figures 25, 26, and 27 are based only on the college prepared segments of all cohorts. Figure 25 shows the 30 units rate disaggregated by gender, figure 26 shows the 30 units rate by age groups, and figure 27 shows the 30 units rate by ethnic groups.

Figures 28, 29, and 30 are based only on the college prepared segments of all cohorts. Figure 25 shows the 30 units rate disaggregated by gender, figure 26 shows the 30 units rate by age groups, and figure 27 shows the 30 units rate by ethnic groups.

Figure 25. College Prepared 30 Units Rate by Gender

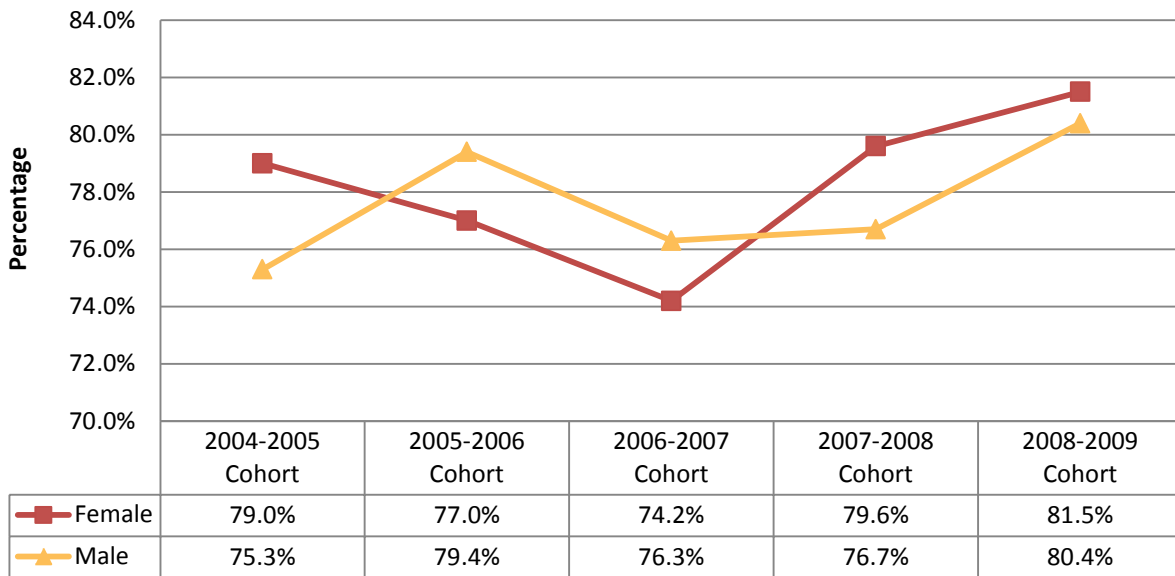


Figure 26. College Prepared 30 Units Rate by Age Groups

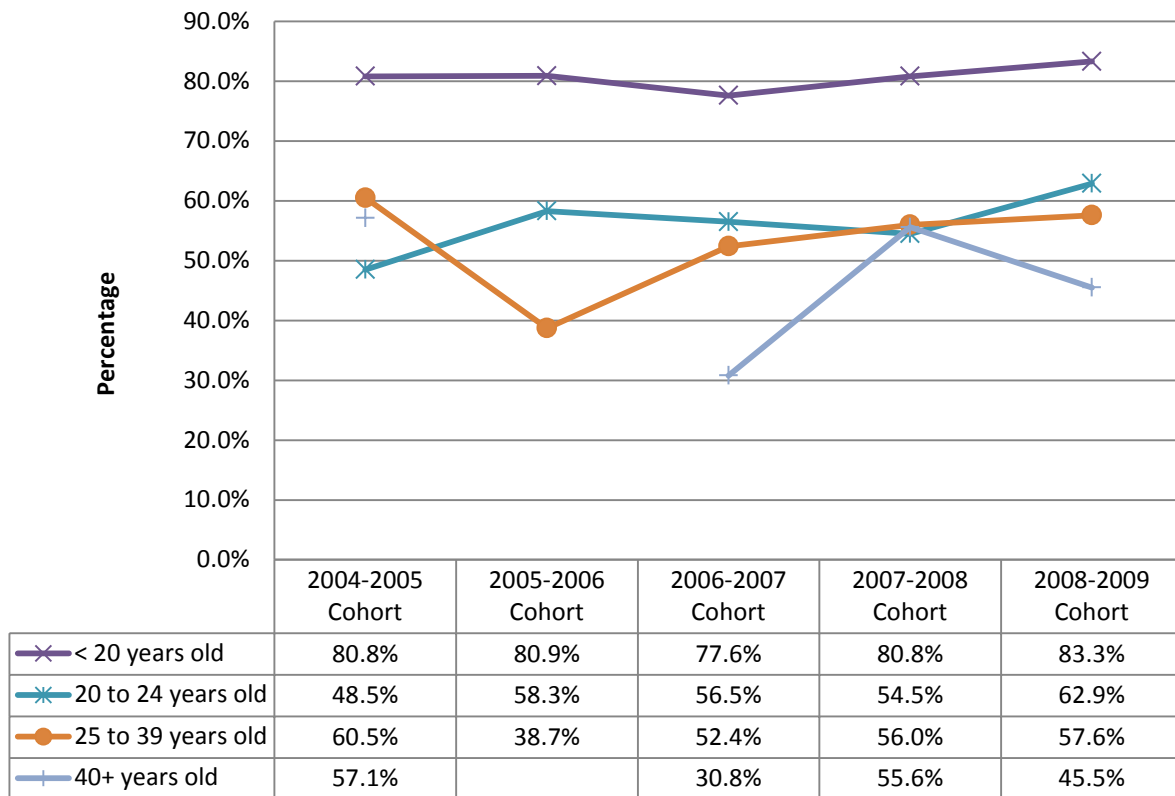


Figure 27. College Prepared 30 Units Rate by Ethnic Groups

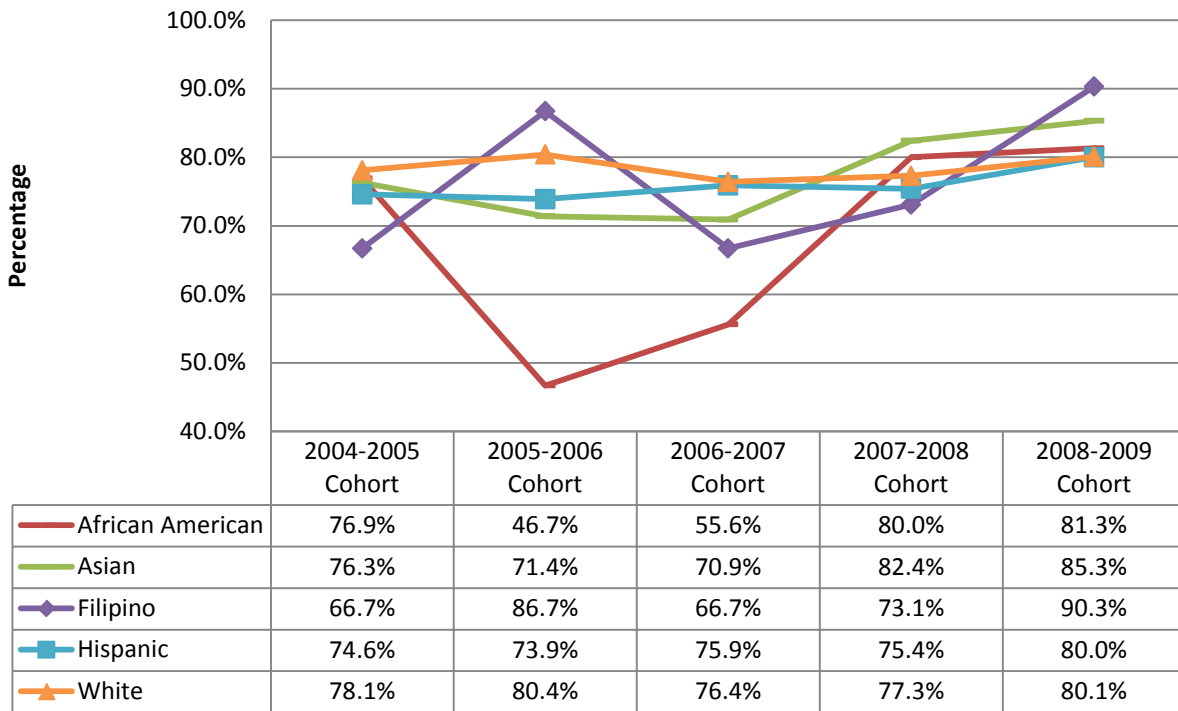


Figure 28. College Unprepared 30 Units Rate by Gender

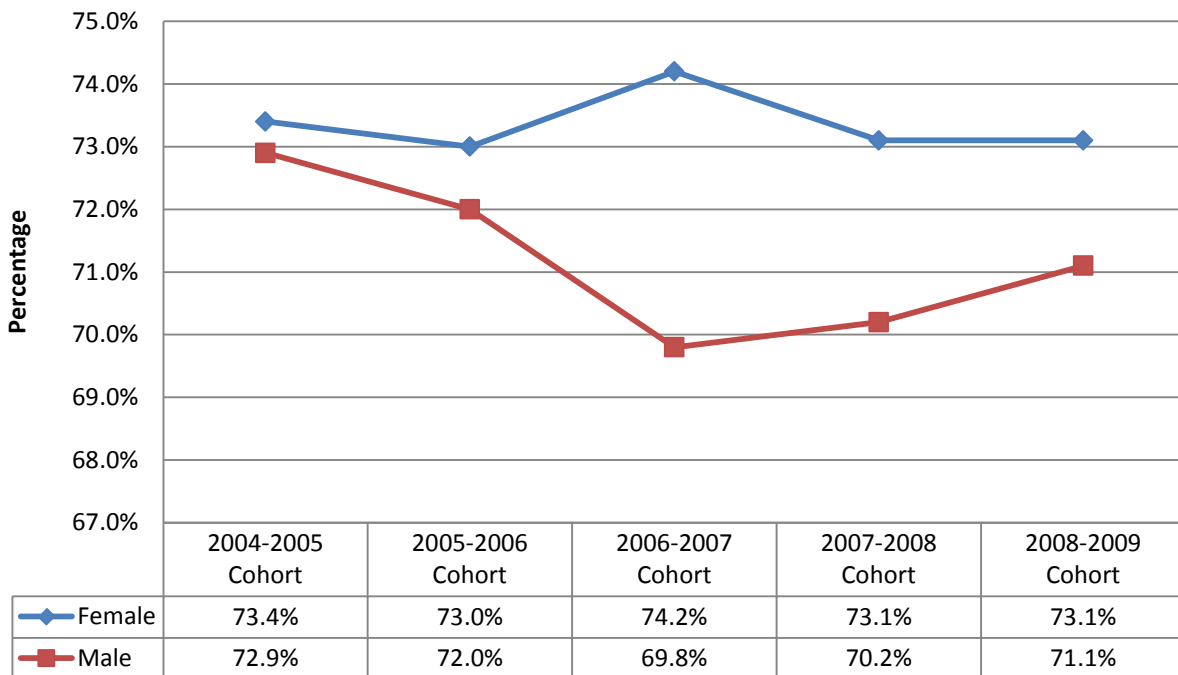
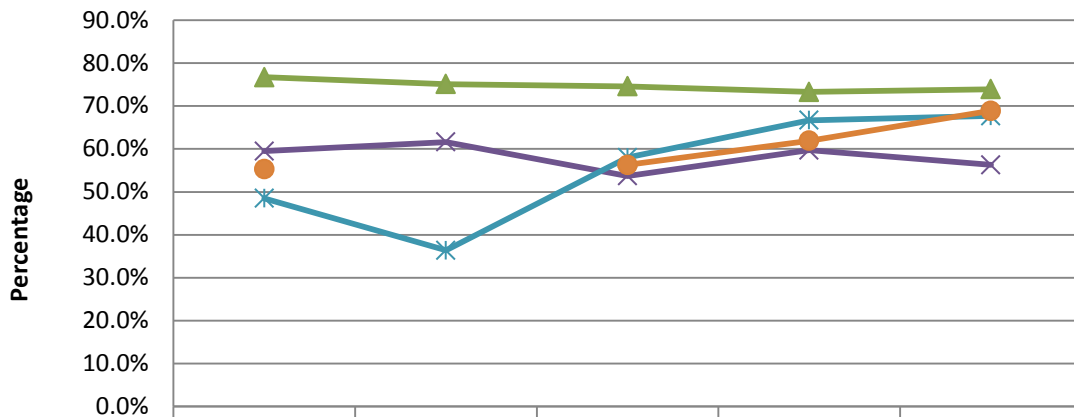
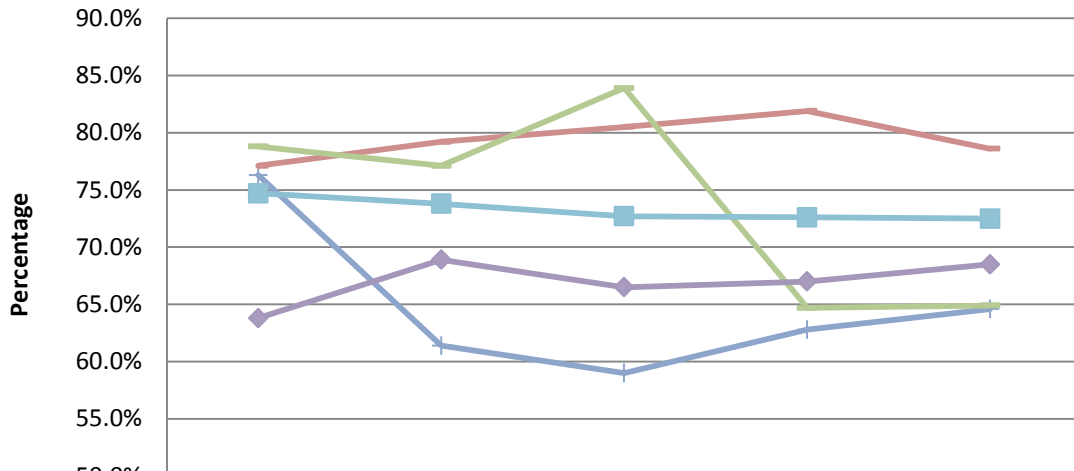


Figure 29. College Unprepared 30 Units Rate by Age Group



	2004-2005 Cohort	2005-2006 Cohort	2006-2007 Cohort	2007-2008 Cohort	2008-2009 Cohort
▲ < 20 years old	76.7%	75.1%	74.6%	73.3%	73.9%
× 20 to 24 years old	59.5%	61.6%	53.7%	59.7%	56.3%
* 25 to 39 years old	48.5%	36.4%	58.0%	66.7%	67.7%
● 40+ years old	55.3%		56.3%	61.9%	68.9%

Figure 30. College Unprepared 30 Units Rate by Ethnic Group



	2004-2005 Cohort	2005-2006 Cohort	2006-2007 Cohort	2007-2008 Cohort	2008-2009 Cohort
+ African American	76.3%	61.4%	59.0%	62.8%	64.6%
■ Asian	77.1%	79.2%	80.5%	81.9%	78.6%
▲ Filipino	78.8%	77.1%	83.9%	64.7%	64.9%
◆ Hispanic	63.8%	68.9%	66.5%	67.0%	68.5%
■ White	74.7%	73.8%	72.7%	72.6%	72.5%