

Analysis of Academic Quality Indicators *Freshmen Fall 2003*

Issue

Is there a significant difference in the academic quality indicators, as measured by GPA, SAT and Comprehensive Review scores for freshmen enrolled in the six colleges/divisions? Recently, questions have been raised regarding the potential impact of the freshmen enrollment targets for 2004-05 to colleges and divisions on the overall quality of undergraduate students on campus. This brief analysis provides information, at the college and division level, regarding the academic quality of incoming students.

Methodology.

The source data for this analysis is the SAT I total score, the Academic Course GPA, and Comprehensive Review Scores for each incoming fall 2003 freshmen (Banner data as of the fall census). For each of these indicators, the campus mean and college/division mean scores were calculated. In addition, to facilitate a closer examination of student differences by college/division, student scores in each unit were rank ordered and divided into quintiles, and mean values were calculated (Attachment 1).

Results

SAT I Scores. Examining the mean scores for each unit reveals that, with the exception of College of Engineering (COE), the college/division mean scores are very similar (Attachment 1). The three divisions in the College of Letters and Science (L&S) have the same mean score of 1,164, while the Division of Biological Sciences (DBS) has a slightly higher score at 1,180, and the College of Agricultural and Environmental Sciences (CAES) score is only slightly lower at 1,156. The COE score is the highest at 1,232.

Analysis of the mean scores by quintile reveals that COE students performed better than students in the other colleges/divisions in all quintiles. The scores for all the other colleges/divisions were generally similar except in the bottom two quintiles (Attachment 2). Identifying possible explanations for the variation in mean scores between the highest and lowest values that begins to emerge in the bottom two quintiles is beyond the scope of this analysis and would require a more in depth examination of applicant and admissions data for these groups.

Academic GPA. The mean GPAs for all college/divisions generally cluster into two groupings. CAES, DBS and COE are at the top with the same or very similar mean

GPA scores of 3.76 to 3.77, while the three divisions in L&S are grouped together with slightly lower scores of 3.65-3.68 (Attachment I). The quintile analysis also reflects this grouping (Attachment 3)

Comprehensive Review Score. SAT I and Academic Course GPA are well known and commonly understood. The Comprehensive Review score is used less often, although scores for the Comprehensive Review are the primary factor in determining freshmen admission. The Comprehensive Review score is based on a combination of academic measures and other factors (see Attachment 7 for a full description of the components) with a maximum possible score of 14,000. Scores are assigned by computer and an individual reading of each application in two phases as described below.

- The machine scoring phase (CR1) assigns points primarily for academic criteria such as SAT and GPA, but also includes points for non-academic criteria such as first generation or nontraditional students, veterans/ROTC, and participation in pre-collegiate motivational programs. The maximum number of points for this phase is 12,750 or approximately 91% of all possible points.
- In the second phase (CR2), each application is individually read and additional points are awarded based on evidence of specified student characteristics including leadership, talent, and perseverance. In this phase, the maximum number of points that can be added is 1,250 or about 9% of all possible points. The total CR2 score for each student reflects all the points used to determine admission.
- Using the mean CR2 value for each college/division (Attachment 1), there is little difference between the colleges/divisions. The scores range from a low of 7,656 to a high of 7,938, a point difference of 3.7%. When the scores are displayed by quintile no particular pattern emerges (Attachment 4).

Even though the two components of the Comprehensive Review score do not clearly separate academic and non-academic criteria, there has been some recent speculation about the impact of the additional points assigned during the CR2 phase. An examination of the additional points obtained in this phase reveals that these additional points are generally awarded in proportion to each college/division's share of the total student population (Attachment 5). The distribution of additional CR2 points within each college or division was also examined in terms of the quintile ranking of total CR score. This analysis revealed that while there are some differences across colleges and divisions, scores are generally evenly distributed among all students (Attachment 6).

Summary of Findings. A brief examination of three academic indicators using data from new freshmen for fall 2003 did not reveal significant differences among the six general campus academic units. Differences in the mean scores for the three indicators at the college/division level or by quintile appear to be generally comparable with the exception of the bottom quintile where relatively larger differences and patterns emerge in some cases. Given these findings and the fact that the overall number of freshmen

will decrease in 2004-05, it seems highly unlikely that the overall quality of the campus undergraduate population as measured by any of the three indicators examined will be diminished.

Other Analysis. In another recently completed study, the Admissions Office analyzed whether adjusting the distribution of new students in 2004-05 would have a negative impact on the overall academic quality and student diversity of undergraduates on campus next year. Using an entirely different analytical approach, the Admissions Office reached conclusions on these issues consistent with the findings described above, concluding that academic quality and campus diversity would not be negatively impacted by the proposed enrollment distributions for fall 2004.

Recommendation

The academic performance characteristics of freshmen at the college/division level appears to not be well understood. ORMP recommends that more regular reporting of statistics of this type be provided as part of the annual admissions process in order to avoid future misunderstanding regarding the academic characteristics of new freshmen.

Notes:

- (1) The data used in this analysis does not match the fall headcount enrollment data. There are slight differences for a number of reasons. Not all students have Academic Index scores, SAT I scores or Academic Course GPAs.

Attachments:

- Attachment 1: Fall 2003 Enrolled Freshmen - Summary of Key Academic Indicators at the College/Division Level
- Attachment 2: Fall 2003 Enrolled Freshmen – Quintile and College/Division Mean Values for SAT 1 Total Score
- Attachment 3: Fall 2003 Enrolled Freshmen – Quintile and College/Division Mean Values for Academic Subject GPA
- Attachment 4: Fall 2003 Enrolled Freshmen – Quintile and College/Division Mean Values for Comprehensive Review Score (CR2)
- Attachment 5: Comparison of the Distribution of Additional CR2 Points by College/Division with the Distribution of Student Enrollment by College/Division
- Attachment 6: Distribution of Additional CR2 Points within Each College/Division among Quintile Ranks
- Attachment 7: Academic Index Scoring System 2003-04

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**Fall 2003 Enrolled Freshmen
Key Academic Indicators**

SAT I Total					
	Total Students	Median	Std.Dev - Population	Mean	Rank by Mean Score
ENG	586	1240	128	1232	1
DBS	1107	1190	142	1180	2
DSS	1143	1180	145	1164	3
HARCS	532	1185	154	1164	3
MPS	528	1180	169	1164	3
CAES	833	1170	166	1156	6
CAMPUS TOTAL	4729	1190	152	1175	

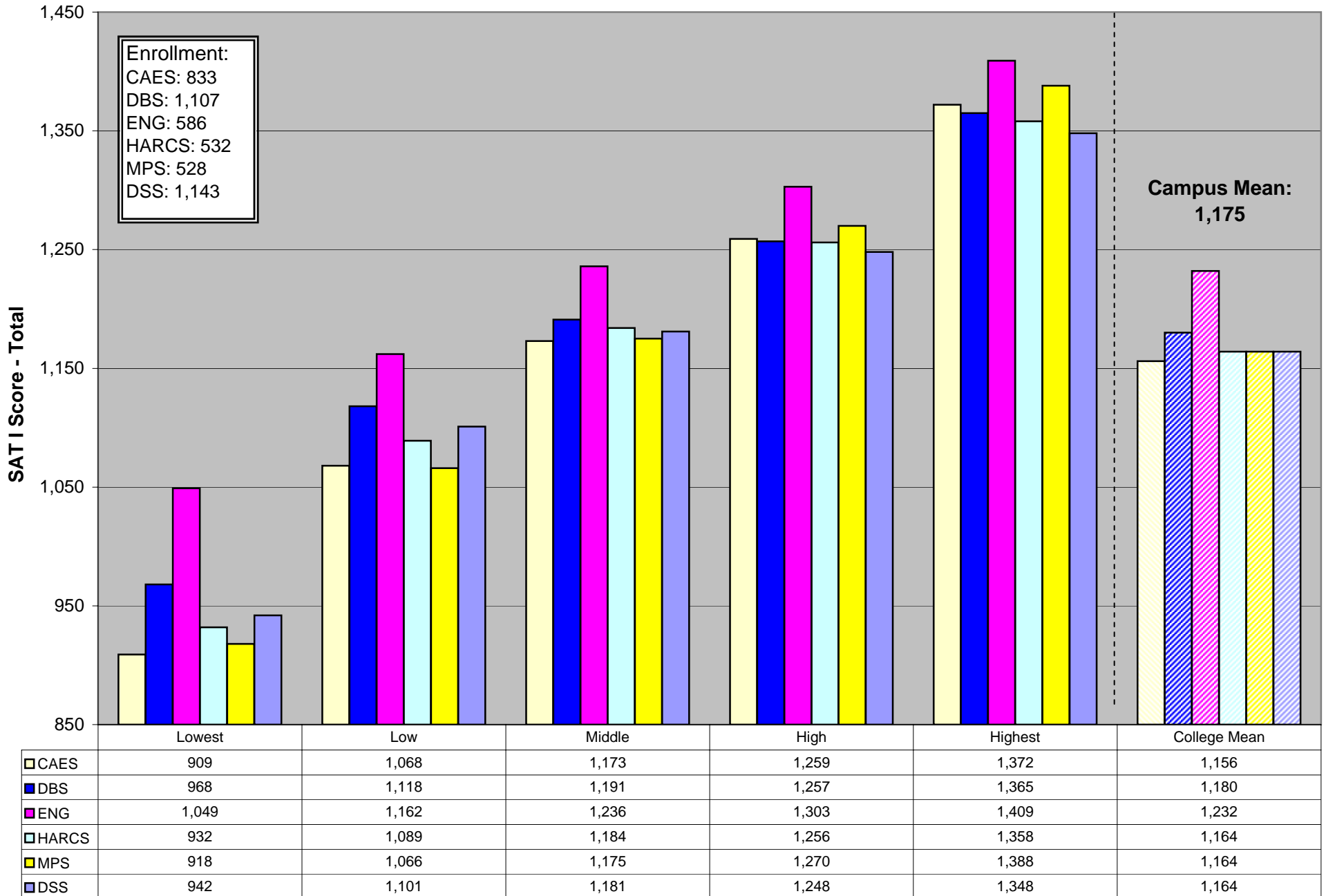
Academic Subjects GPA					
	Total Students	Median	Std.Dev - Population	Mean	Rank by Mean Score
DBS	1118	3.80	0.333	3.77	1
ENG	594	3.79	0.319	3.77	1
CAES	843	3.71	0.348	3.76	3
HARCS	542	3.72	0.337	3.68	4
MPS	540	3.70	0.351	3.67	5
DSS	1157	3.39	0.335	3.65	6
CAMPUS TOTAL	4794	3.75	0.342	3.72	

Comprehensive Review Score					
	Total Students	Median	Std.Dev - Population	Mean	Rank by Mean Score
CAES	818	7890	813	7938	1
ENG	587	7820	858	7918	2
DBS	1113	7770	789	7876	3
MPS	533	7690	784	7774	4
HARCS	539	7610	694	7727	5
DSS	1146	7550	676	7656	6
CAMPUS TOTAL	4736	7700	773	7810	

Note: The data source is Banner, as of the fall census. There are slight differences in the total population for the three indices because, depending on the type of applicant or basis of admission, not all students have recorded SAT I scores, Academic Course GPAs or Comprehensive Review scores.

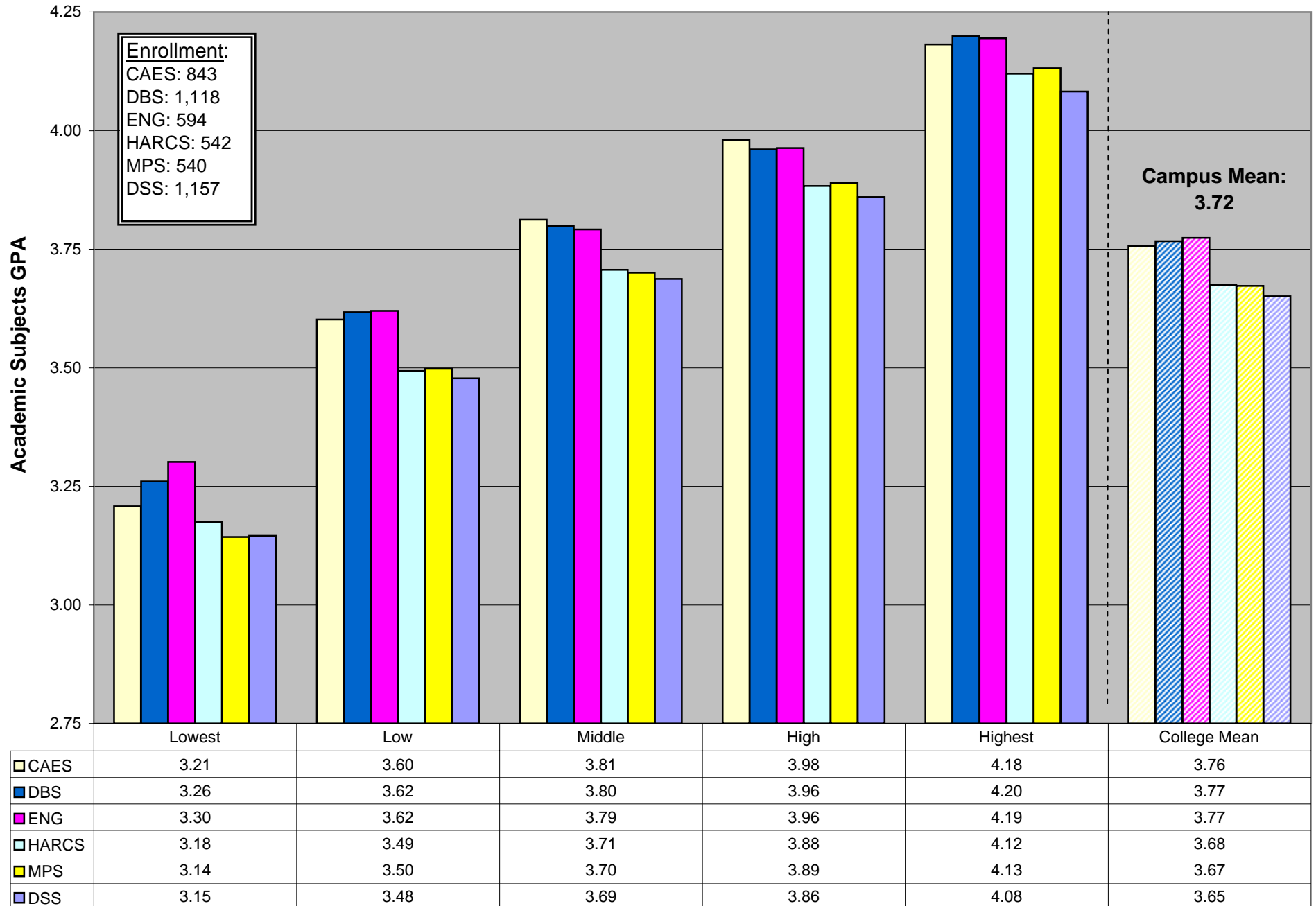
Mean SAT I Total Score

College/Division Total and by Quintile of Students In Each College/Division

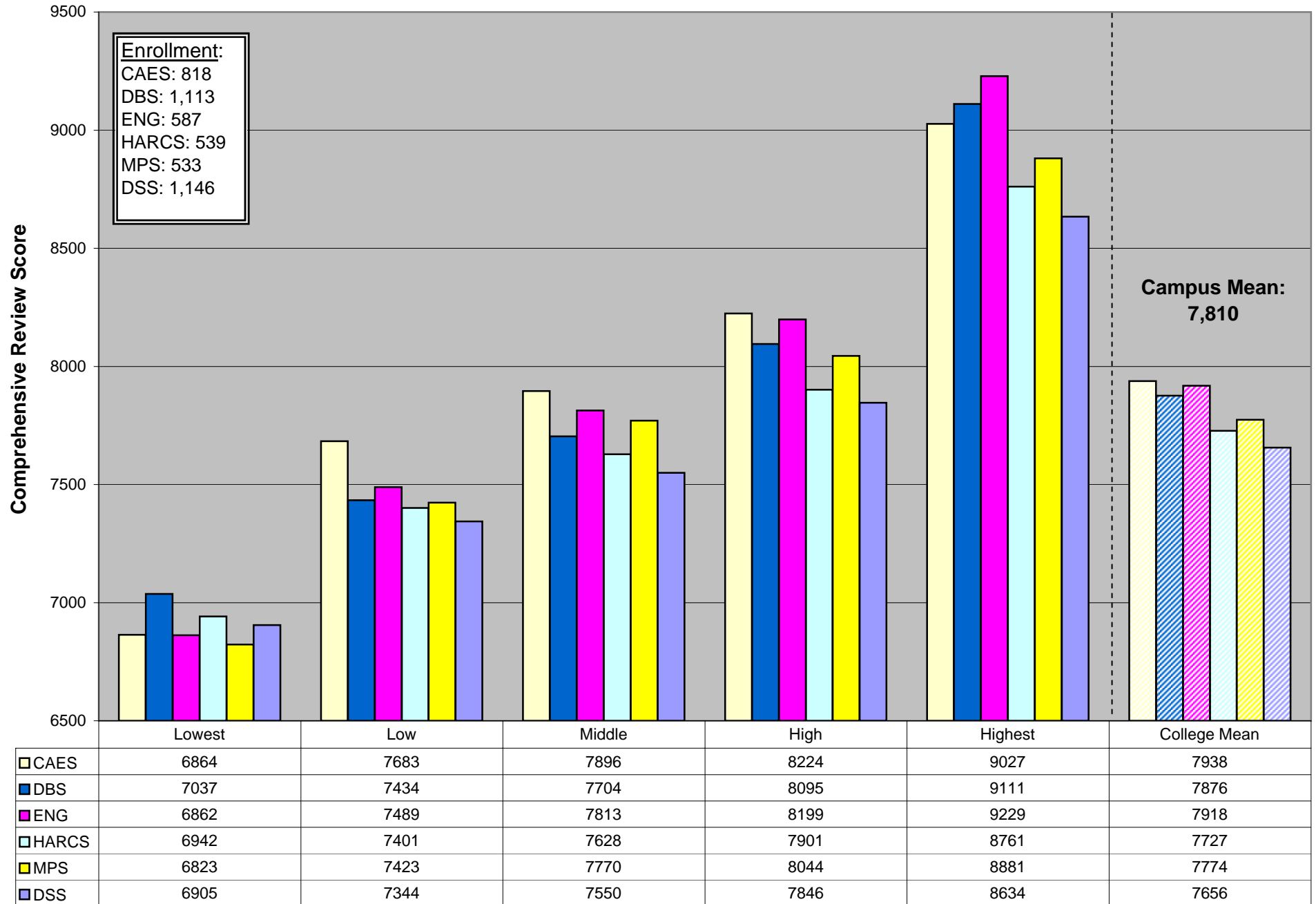


Fall 2003 Enrolled Freshmen
Mean Academic Subject GPA

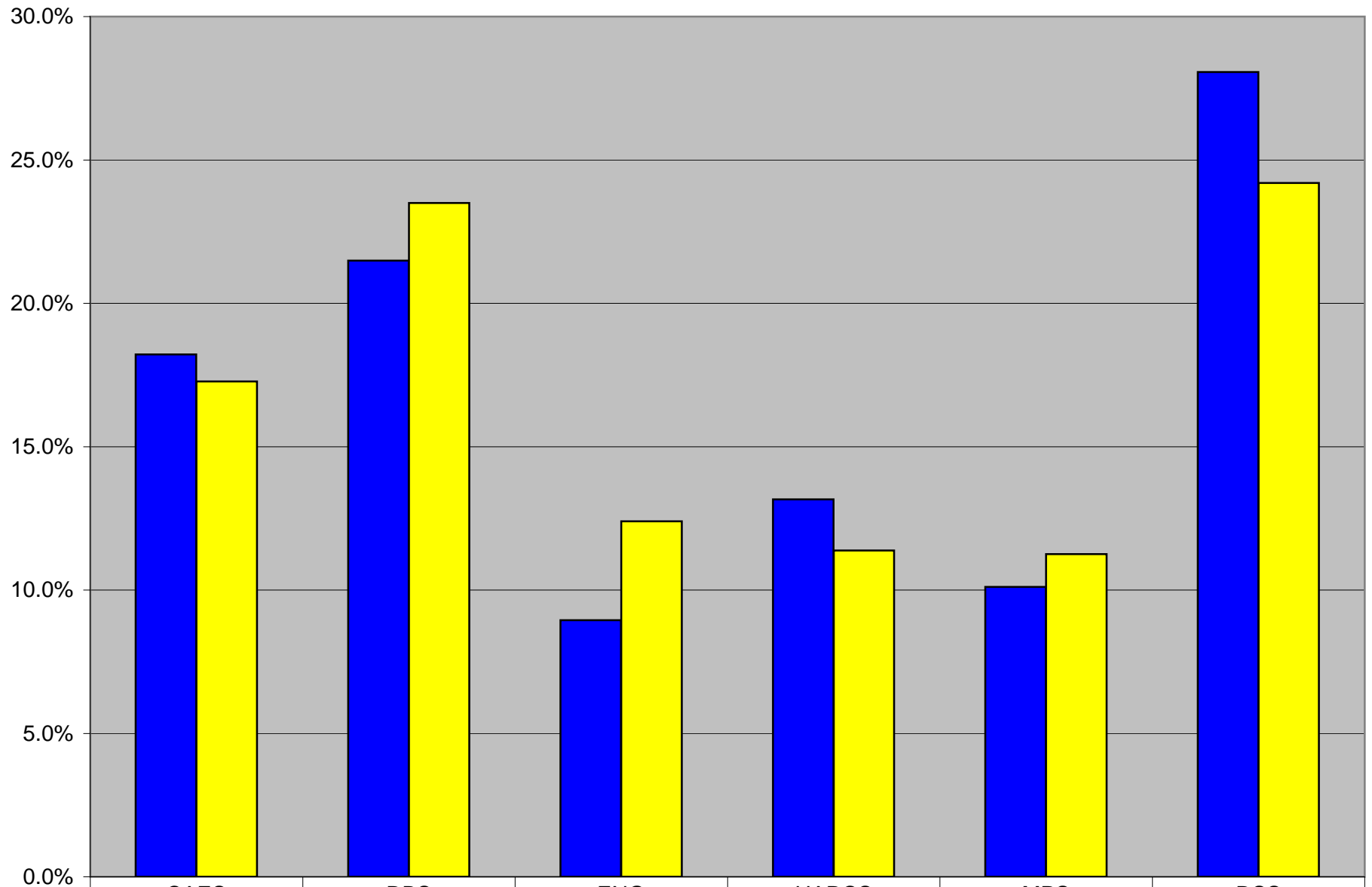
College/Division Total and by Quintile of Students In Each College/Division



**Fall 2003 Enrolled Freshmen
Comprehensive Review Score
College/Division Total and by Quintile of Students In Each College/Division**



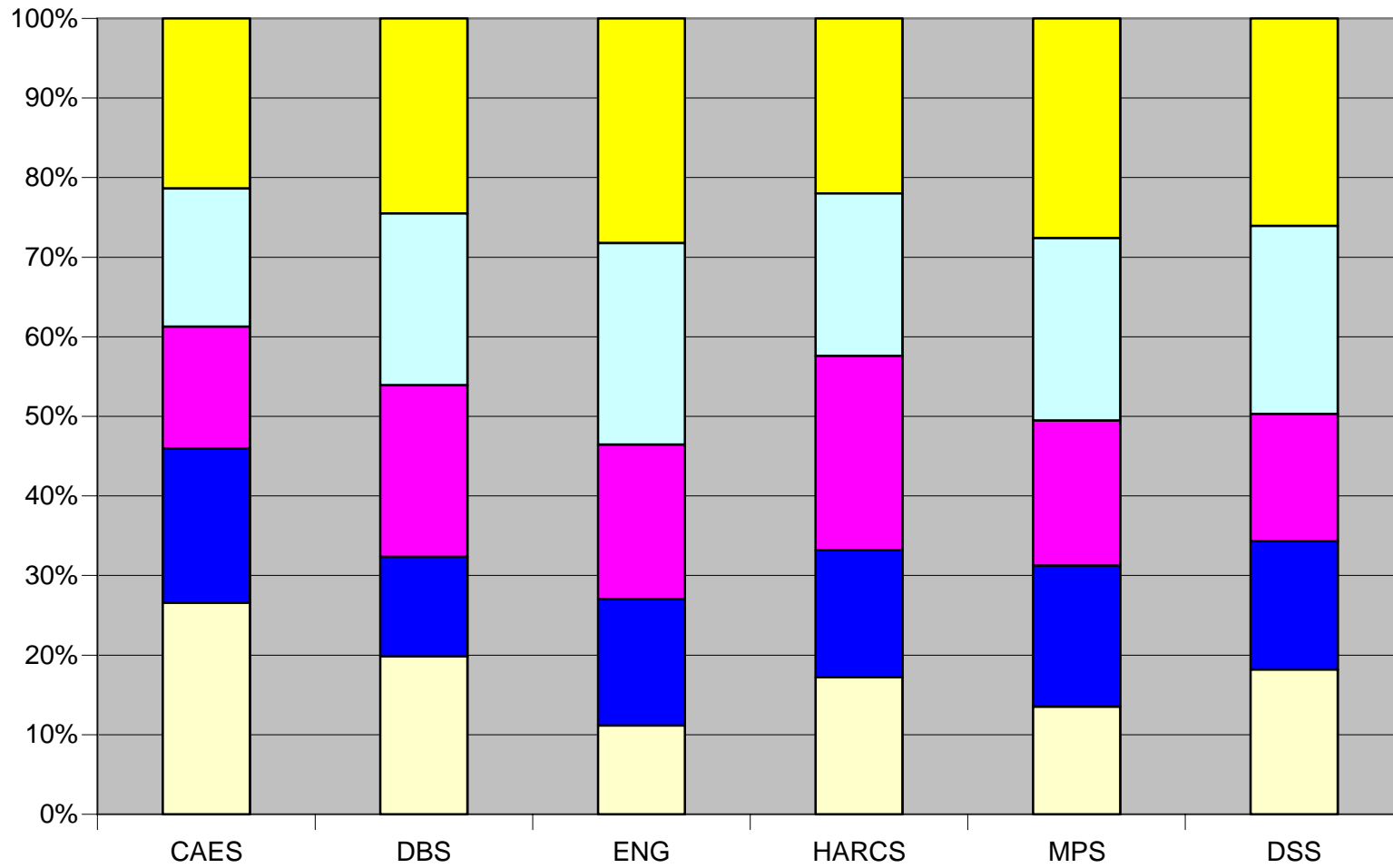
Comparison of Shares of Freshmen and Shares of Additional Points Awarded in CR2 Review Phase



■ Share of Pt	18.2%	21.5%	9.0%	13.2%	10.1%	28.1%
■ Share of total pop	17.3%	23.5%	12.4%	11.4%	11.3%	24.2%

Fall 2003 Enrolled Freshmen
Application Review Points

Distribution by Quintile of Applications Awarded Points in CR2 Review Phase



	CAES	DBS	ENG	HARCS	MPS	DSS
■ Highest	21.4%	24.5%	28.2%	22.0%	27.6%	26.1%
■ High	17.3%	21.6%	25.3%	20.4%	22.9%	23.6%
■ Medium	15.3%	21.6%	19.4%	24.4%	18.2%	15.9%
■ Low	19.4%	12.5%	15.9%	16.0%	17.7%	16.1%
■ Lowest	26.6%	19.9%	11.2%	17.2%	13.5%	18.2%

Academic Index Scoring for Fall 2003

Point ranges and weights for selection criteria:

Criteria	Pt. Range	Weight	Total Possible Score
HSGPA	2.8-4.5	1,000	4,500
5 Admissions Exam Scores	200-800 each	1	4,000
ELS	0 or 1	1,000	1,000
# of a-g Courses beyond 35	0-20	50	1,000
Individual Initiative	0 or 1	500	500
EOP	0 or 1	500	500
Pre-Collegiate Motivational Program	0 or 1	500	500
First-generation University Attendance	0 or 1	250	250
Nontraditional	0 or 1	250	250
Veteran/ROTC Scholarship	0 or 1	250	250
Sub-total – CR1Review			12,750 (91%)
Significant Disability	0 or 1	250	250
Leadership	0 or 1	250	250
Special Talent	0 or 1	250	250
Perseverance	0 or 1	250	250
Marked Improvement in 11th Grade	0 or 1	250	250
Sub-total – CR2 Review			1,250 (9%)
TOTAL Review			14,000

Comprehensive Review 1 (CR1)

A score is assigned to each application based on all of the criteria for which a score can be computed electronically (i.e., the criteria from HSGPA through “Veteran/ROTC scholarship” in the table above. An approximate cutoff score for a total review (i.e., one in which all of the criteria are considered) is calculated, taking into account average points per application from previous years for the remaining criteria..

Comprehensive Review 2 (CR2)

Applications are further evaluated for the criteria that are not electronically available and the point score from the initial evaluation is augmented accordingly.