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## Statistical Evaluations of the ACATs - 2006

The table below contains basic descriptive statistics for the five most frequently administered ACAT disciplines. The statistics were calculated for the overall raw scores obtained over the 6-year period coinciding with the current comparison groups. Only the scores obtained from graduating senior majors, the target population, were included.

The raw scores, number correct divided by number of items, were used to measure the underlying parameters of the items. The actual ACAT scores are based on a weighted item scale translated to a standard score.

The data indicate that, for four of the five disciplines, the raw total scores over the most recent 6-year period approximate normal distributions. This finding is essential to allowing the data to be transformed to standard scores. The data also support the need for the extensive revision to the ACAT in Political Science that is scheduled to begin during 2007-08.

	<b>Psychology</b>	<b>Social Work</b>	<b>Political Science</b>	<b>Biology</b>	<b>Criminal Justice</b>
Mean	45.01	55.96	43.51	37.96	47.78
Standard Error of the Mean	0.63	0.81	1.39	1.79	1.20
Kurtosis	0.83	1.39	2.95	0.54	1.00
Skewness	-0.17	0.00	-1.74	0.28	-0.24

A frequently used measure of reliability when neither test-retest nor split-half techniques can be applied is odd-even. This divides the items into two groups and calculates the coefficient of reliability assuming that if the two groups are measuring the same domain, the scores should be strongly correlated.

The following table lists the calculated coefficients for odd-even reliability by individual content area for each of the ACAT disciplines. The raw scores, number correct divided by number of items, were used for the coefficients to insure the underlying reliability of the items themselves. The actual ACAT scores are based on a weighted item scale.

Because the content areas appearing on each version of the ACAT vary from campus to campus, the reliability coefficients are calculated at the level of the content areas rather than for the test as a whole.

<b>Discipline</b>	<b>Range of coefficients for the content areas</b>	<b>Median value</b>
Agriculture	.39 - .83	.70
Art	.57 - .87	.79
Biology	.22 - .84	.59
Criminal Justice	.47 - .59	.53
Geology	.43 - .77	.63
History	.08 - .79	.54
Literature in English	.33 - .82	.60
Political Science	.62 - .88	.67
Psychology	.45 - .69	.55
Social Work	.52 - .80	.67