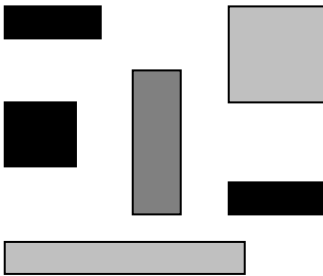


Dental
Admission
Testing
Program

Report 1-1
2009

Validity Study, 2005-2006



DENTAL ADMISSION TEST VALIDITY STUDY
2005-2006

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Introduction

Validity is the most important consideration for any testing program. Validity refers to the degree to which logic and evidence support the use of test scores for making critical decisions (e.g., pass/fail, admission, placement, grouping, etc.) affecting examinees. National testing standards provide useful guidance to testing organizations that can help improve validation. It is important to follow these standards and give evidence that a testing program such as the Dental Admission Testing Program (DAT) follows these standards.

This report provides a comprehensive summary of information regarding the 2005-2006 validation of the DAT. Although there are several aspects of validity, this report focuses on correlations with external variables (criterion-related validity or predictive validity). Content relevance and representativeness (content validity), which are additional important aspects of validity, depend on the extent to which the test reflects content domains that underlie the successful acquisition of the knowledge and problem solving skills involved in the dental school curriculum. Typically, committees that construct tests based on the content specifications maintain this type of validity. These committees routinely update the specifications so that the test measures important information and covers important content domains.

Acceptable correlations with external variables depend on the relationship of test results to dental-school performance. These correlations with external variables are presented in the following sections in this report.

To conduct the criterion-related validity study, fifty-six schools participated in this study. For the first-year class, eight of the participating schools did not provide any grades in every area requested, and one school only provided data for some areas, thus there are 47 schools reporting. For the second-year class, eight of the participating schools did not provide any grades in every area requested, and five schools only provided data for some areas, thus there are 43 schools reporting.

The report includes first- and second-year grades in biomedical sciences and pre-clinical dental technique and first- and second-year grade point averages (GPAs). Information for this report was obtained from the following sources:

1. students' grades in first or second year of dental school during the 2005-2006 academic year, submitted by the dental schools participating in this study;
2. the undergraduate science and pre-dental GPA for the same students, also submitted by the dental schools participating in this study; and
3. DAT scores achieved by these students during their junior or senior year of undergraduate study.

Dental schools received the following instructions describing how to report undergraduate and first- and second-year dental school grades:

Instructions and Examples of Course Grade Categories:

First-Year Class List: Course Grades:

Predental Total GPA (4.0 Scale): The grade point average calculated for all courses taken by the student during his/her or the undergraduate years. **The official final recorded Predental Total GPA that the dental school has for the student.**

Predental Science GPA (4.0 Scale): The grade point average calculated for all science courses taken by the student during his/her or the undergraduate years. **The official final recorded Predental Science GPA that the dental school has for the student.**

Biomedical Science Total GPA (4.0 Scale): Please include in this category any courses your dental school considers as 1st Year Biomedical Science courses.

These could include such courses as Dental Anatomy, Gross Anatomy, Head and Neck Anatomy, Microscopic Anatomy, Oral Histology, Oral Biology, Oral Diagnosis, Biochemistry, Microbiology, Immunology, Oral Pathology, Pharmacology, Physiology, Genetics, etc.

Preclinical Dental Technique Total GPA (4.0 Scale): Please include in this category any courses your dental school considers as 1st Year Preclinical Dental Technique courses.

These could include such courses as Preclinical Operative Technique, Fixed Prosthodontics Technique, Removable Prosthodontics Technique, etc. Please use only Preclinical courses.

1st Year (Only) Cumulative Dental GPA (4.0 Scale): This includes the cumulative Dental GPA of all 1st Year dental courses.

Recommended method to calculate the 1st Year Biomedical Science or Preclinical Dental Technique Total GPA, as well as the 1st Year (Only)

Cumulative Dental GPA: Please use the weight assigned to each course by your school (the weight used in the student's transcript). Take the grade and multiply it by the course weight and determine a "number". Add all the "numbers" and get a total, which is divided by the whole weight.

Second-Year Class List: Course Grades:

Biomedical Science Total GPA (4.0 Scale): Please include in this category any courses your dental school considers as 2nd Year Biomedical Science courses.

These could include such courses as Dental Anatomy, Gross Anatomy, Head and Neck Anatomy, Microscopic Anatomy, Oral Histology, Oral Biology, Oral Diagnosis, Biochemistry, Microbiology, Immunology, Oral Pathology, Pharmacology, Physiology, Genetics, etc.

Preclinical Dental Technique Total GPA (4.0 Scale): Please include in this category any courses your dental school considers as 2nd Year Preclinical Dental Technique courses.

These could include such courses as Preclinical Operative Technique, Fixed Prosthodontics Technique, Removable Prosthodontics Technique, Endodontics

Technique, Orthodontics Technique, Preclinical Periodontics, Preclinical Pediatric Dentistry, etc. Please use only Preclinical courses.

2nd Year (Only) Cumulative Dental GPA (4.0 Scale): This includes the cumulative Dental GPA of all second year dental courses. **Please include only the second year courses, exclude first year courses from this calculation.**

Recommended method to calculate the 2nd Year Biomedical Science or Preclinical Dental Technique Total GPA, as well as the 2nd Year (Only) Cumulative Dental GPA: Please use the weight assigned to each course by your school (the weight used in the student's transcript). Take the grade and multiply it by the course weight and determine a "number". Add all the "numbers" and get a total, which is divided by the whole weight.

The method of reporting grades employed in this report differed from previous years. Prior to the 2002-2003 academic year, schools were asked to report first-year grades in individual biochemistry, histology, preclinical operative technique courses as well as first-year technique averages and GPAs and second-year grades in individual pharmacology, biochemistry, preclinical operative technique courses as well as second-year technique averages and GPAs.

The report investigates whether admission selection criteria such as undergraduate GPAs (i.e., pre-dental GPA and science GPA) and DAT scores are related to academic and technique performance in the students' first two years of dental education. The correlation (r) and squared multiple correlation coefficients (R^2 s) reported in the following tables show the relationships between dental school performance and students' prior achievement as indicated by undergraduate GPAs and DAT scores.

In Part I, Tables 1 through 3 present the correlations among undergraduate GPAs, pre-clinical dental technique grades, DAT scores, and first-year dental school grades. Tables 4 through 6 present the multiple correlations of predictors with first-year dental school grades (e.g., first-year grades with various combinations of undergraduate GPAs and DAT scores). The R^2 is the squared Pearson product-moment correlation of a variable with its value as best predicted by a linear combination of other variables. The R^2 is interpreted as the percentage of variability in the criteria accounted for by the predictors. In the context of this report, R^2 is the squared Pearson product-moment correlation of a first- or second-year grade or GPA with its value as predicted by a combination of undergraduate GPAs and DAT scores. R^2 ranges from zero to one, and, in the context of this report, it is an index of how well first- or second-year grades or GPAs can be predicted from a combination of undergraduate GPAs and DAT scores. Specifically, R^2 is the proportion of the variance in first- or second-year grades or GPAs that can be predicted by a linear combination of pre-dental GPA, science GPA, and DAT scores. Tables 7 through 9 present summaries of significant correlations (at the 0.05 level of significance) between the first-year achievement levels and DAT scores over four years of DAT administrations, 2002-2003 to 2005-2006. In Part II, Tables 10 through 12 present correlations among undergraduate GPAs, DAT scores, and second-year dental school grades; Tables 13 through 15 present the multiple correlations of predictors with second-year dental school grades. Tables 16 through 18 present summaries of significant correlations (at the 0.05 level of significance) between the second-year achievement

levels and DAT scores over four years of DAT administrations, 2002-2003 to 2005-2006. Table 19 summarizes the median correlations and median multiple R²s of all ten predictors with dental school performance.

The evidence of criterion-related validity presented in this report is consistent with the results of previous DAT Validity Study reports, and should reassure admission committees of the continuing value of DAT scores as part of the selection criteria.

PART I

Correlations among Undergraduate GPAs, DAT Scores, and First-year Dental School Grades

In Part I, undergraduate GPAs and DAT scores are correlated with first-year dental school grades. Measures of undergraduate GPAs are pre-dental GPA and science GPA. DAT scores include two DAT composite scores: total science and academic average and six individual DAT scores: quantitative reasoning, reading comprehension, biology, general chemistry, organic chemistry and perceptual ability. First-year dental school grades include biomedical grades, pre-clinical dental technique grades, and first-year grade point average. Table 1 presents the correlation coefficients among undergraduate GPAs, DAT scores, and first-year biomedical grades. Table 2 shows the correlation coefficients among undergraduate GPAs, DAT scores, and first-year pre-clinical dental technique grades. Table 3 provides the correlation coefficients among undergraduate GPAs, DAT scores, and first-year grade point average. The results are summarized below:

1. Pre-dental GPA, science GPA, and two DAT composite scores appear to have the highest level of association with biomedical grades in the first year of dental school (Table 1). DAT science scores (scores from biology, general chemistry, and organic chemistry) appear to be more strongly related to first-year biomedical grades than are the reading comprehension score or the quantitative reasoning score. The perceptual ability score appears to have the lowest level of association with first-year biomedical grades.

2. The correlations of pre-dental GPA, science GPA, two DAT composite scores, and five individual DAT scores with first-year pre-clinical dental technique grades (Table 2) are lower than those with first-year biomedical grades (Table 1) or first-year grade point average (Tables 3) with the exception of the perceptual ability score. The perceptual ability score is the measure most strongly related to first-year pre-clinical dental technique grades.

3. The pattern of correlations of first-year grade point average with pre-dental GPA, science GPA, and DAT scores (Table 3) is similar to that of first-year biomedical grades (Table 1). Pre-dental GPA, science GPA, and two DAT composite scores are the most important predictors in their level of association with first-year grade point average. DAT science scores (i.e., the scores from biology, general chemistry, and organic chemistry) are correlated with first-year grade point average more strongly than are the quantitative reasoning score, the reading comprehension score, or the perceptual ability score.

The multiple correlations of first-year biomedical grades, pre-clinical dental technique grades, and grade point average with pre-dental GPA, science GPA, DAT academic scores (quantitative reasoning, reading comprehension, biology, general chemistry, organic chemistry), all DAT scores (DAT academic scores plus the perceptual ability score), and all predictors (combining pre-dental GPA, science GPA, DAT academic scores, and all DAT scores) are presented in Tables 4 through 6. Overall, the multiple correlation using pre-dental GPA and science GPA as well as all DAT scores results in the greatest amount of explained variance in first-year biomedical grades (35%), pre-

clinical dental technique grades (25%), and grade point average (36%). The rest of the results are summarized below.

1. In Table 4, 14% of the variance and 15% of the variance in first-year biomedical grades are explained by pre-dental GPA and science GPA, respectively, while 25% of the variance and 26% of the variance are explained by DAT academic scores and all DAT scores, respectively. When the perceptual ability score is included as a predictor, the explained variance is increased by 1%.

2. In Table 5, pre-dental GPA (6%) and science GPA (6%) appear to be similar in their contributions in predicting first-year pre-clinical dental technique grades, while 11% of the variance and 19% of the variance in first-year pre-clinical dental technique grades can be explained by DAT academic scores and all DAT scores, respectively. The explained variance is increased by 8% when the perceptual ability score is included as a predictor. The finding suggests that the Perceptual Ability Test appears to be the best single predictor of first-year pre-clinical dental technique grades than by any other measure.

3. In Table 6, the explained variance in first-year grade point average that is accounted for by each of the following predictors is: pre-dental GPA (15%), science GPA (17%), DAT academic scores (22%), and all DAT scores (25%). When the perceptual ability score is included as a predictor, the explained variance is increased by 3%. This pattern of the median explained variance is similar to the pattern displayed for first-year biomedical grades (Table 4).

The finding from a series of correlations of the first-year dental-school performance with all predictor variables, as shown in Tables 1 through 6, indicates significant positive correlation between undergraduate GPAs, the DAT academic scores, and first-year biomedical grades and grade point average. The predictive power of the Perceptual Ability Test score, however, is significant related to first-year pre-clinical dental techniques grades. Overall, the greatest amount of variance in achievements of first-year students in dental schools has been explained when all DAT scores and both undergraduate GPAs are included as predictors.

Number and percentage of schools with significant correlations (at the 0.05 level of significance) of first-year grades with undergraduate GPAs and DAT scores over four years of DAT administrations, 2002-2003 to 2005-2006, are presented in Tables 7 through 9. As shown in these tables, the DAT scores demonstrate significant positive relationships with first-year biomedical grades and grade point average for a large proportion of dental schools over four years of DAT administrations. The perceptual ability score, science GPA, and pre-dental GPA demonstrate significant positive relationships with first-year pre-clinical dental technique grades for a large proportion of dental schools over four years of DAT administrations, 2002-2003 to 2005-2006, however. Overall, DAT scores are the most significant predictors of first-year dental school performance.

Table 1

**First Year Biomedical Grades
Correlated with Pre-Dental GPA, Science GPA, and DAT Scores**

School Code	Pre-Dental GPA	Science GPA	Academic Average	Total Science	Quantitative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability
D22	0.40*	0.35*	0.25	0.32*	-0.04	0.27*	0.26	0.24	0.27*	0.16
D78	0.47*	0.47*	0.42*	0.50*	-0.03	0.30*	0.37*	0.45*	0.36*	0.27*
D82	0.57*	0.60*	0.48*	0.45*	0.29*	0.24*	0.28*	0.41*	0.44*	0.28*
D91	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.14	0.08	0.00	-0.01	-0.08	0.08	0.04	-0.01	-0.06	0.08
D98	0.31*	0.31*	0.46*	0.35*	0.22	0.43*	0.34*	0.25*	0.25*	-0.04
D77	0.29*	0.40*	0.40*	0.40*	0.27	0.33*	0.49*	0.19	0.17	0.09
D06	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.33*	0.30*	0.21	0.30*	0.12	-0.03	0.30*	0.28*	0.15	0.21
D13	0.45*	0.47*	0.18	0.25*	0.10	0.04	0.10	0.28*	0.19	0.09
D55	0.30*	0.32*	0.35*	0.43*	0.20*	-0.08	0.34*	0.29*	0.32*	0.11
D47	0.52*	0.47*	0.53*	0.48*	0.21	0.32*	0.36*	0.29*	0.55*	0.02
D72	0.26	0.36*	0.36*	0.32*	0.42*	0.08	0.16	0.30*	0.35*	0.39*
D88	0.24	0.22	0.35*	0.34*	0.18	0.22	0.40*	0.16	0.36*	0.32*
D11	0.50*	0.49*	0.34*	0.39*	0.26*	0.25*	0.35*	0.25*	0.20*	0.02
D81	0.58*	0.60*	0.59*	0.63*	0.32*	0.32*	0.57*	0.40*	0.54*	0.37*
D89	0.43*	0.48*	0.38*	0.43*	0.11	0.41*	0.30*	0.18	0.32*	-0.09
D94	0.38*	0.41*	0.47*	0.48*	0.19	0.23*	0.36*	0.38*	0.51*	0.30*
D61	0.48*	0.46*	0.38*	0.49*	0.02	0.11	0.45*	0.35*	0.38*	0.04
D99	0.35*	0.33*	0.38*	0.33*	0.16	0.28*	0.19*	0.27*	0.29*	0.20*
D56	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D93	0.26*	0.32*	0.14	0.08	0.12	0.23*	0.10	0.06	-0.11	-0.12
D86	0.31*	0.41*	0.38*	0.40*	0.24*	0.06	0.39*	0.29*	0.38*	0.19*
D41	0.43*	0.46*	0.27*	0.24*	0.28*	0.14	0.09	0.18	0.26*	0.04
D10	0.46*	0.47*	0.46*	0.45*	0.26*	0.32*	0.44*	0.34*	0.31*	0.27*
D23	0.50*	0.50*	0.34*	0.36*	0.17	0.22*	0.28*	0.18	0.34*	-0.12
D12	0.31	0.22	0.44*	0.34*	0.26	0.10	0.33	0.20	0.19	-0.07
D57	0.35*	0.41*	0.45*	0.40*	0.32*	0.23*	0.36*	0.32*	0.24*	0.06
D39	0.59*	0.61*	0.51*	0.51*	0.36*	0.09	0.47*	0.28*	0.47*	0.24*
D38	0.67*	0.57*	0.40*	0.50*	0.01	0.09	0.47*	0.19	0.43*	0.06
D09	0.13	0.17	0.15	0.12	0.17	-0.08	-0.01	0.04	0.23*	0.28*
D95	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D65	0.09	0.07	0.27*	0.25*	0.21*	0.14*	0.27*	0.19*	0.12	0.15*
D75	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.04	0.09	0.35*	0.38*	0.24*	0.17	0.39*	0.12	0.31*	0.19
D87	0.40*	0.48*	0.36*	0.38*	0.20	0.15	0.51*	0.19	0.07	0.08
D52	0.40*	0.39*	0.47*	0.41*	0.25*	0.37*	0.30*	0.28*	0.39*	0.16
D70	0.44*	0.43*	0.39*	0.40*	0.31*	0.03	0.31*	0.34*	0.34*	0.03
D31	0.29*	0.35*	0.39*	0.33*	0.34*	0.26*	0.36*	0.20	0.25*	0.22
D49	0.36*	0.46*	0.34*	0.40*	0.10	0.20	0.42*	0.33*	0.08	0.17
D03	0.23*	0.31*	0.49*	0.45*	0.30*	0.30*	0.41*	0.36*	0.25*	0.25*
D71	0.25*	0.12	0.23*	0.21*	0.08	0.11	0.15	0.17	0.21*	-0.01
D26	0.33*	0.41*	0.44*	0.51*	0.20*	0.21*	0.50*	0.31*	0.27*	0.19*
D83	0.27*	0.34*	0.51*	0.42*	0.37*	0.39*	0.41*	0.32*	0.29*	0.25*
D90	0.38*	0.41*	0.47*	0.43*	0.13	0.28*	0.37*	0.43*	0.17	0.16
D44	0.50*	0.50*	0.42*	0.39*	0.35*	0.24	0.26	0.33*	0.21	0.17
D53	0.52*	0.38*	0.37*	0.42*	0.03	0.23*	0.45*	0.15	0.33*	0.15
D24	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D68	0.13	0.23	0.30*	0.33*	0.17	0.22	0.44*	0.10	0.06	0.20
D84	0.46*	0.32*	0.52*	0.49*	0.29*	0.30*	0.42*	0.31*	0.43*	0.26*
D36	0.39*	0.41*	0.48*	0.50*	0.35*	-0.08	0.43*	0.50*	0.36*	0.23*
D02	N/Av	N/Av	0.41*	0.37*	0.25	0.27*	0.22	0.32*	0.39*	0.27*
D76	0.39*	0.33*	0.31*	0.29*	0.21	0.16	0.14	0.24	0.13	0.25
D63	0.57*	0.60*	0.60*	0.56*	0.48*	0.39*	0.44*	0.52*	0.34*	0.12
D33	0.08	0.15	0.09	0.18	-0.25	0.16	0.07	0.06	0.30*	-0.07
# of Correlations	48	48	49	49	49	49	49	49	49	49
# of Significant Correlations	39	39	42	45	22	26	36	30	36	18
Percent Significant	81%	81%	86%	92%	45%	53%	73%	61%	73%	37%
Median Correlation	0.38	0.41	0.38	0.40	0.21	0.22	0.36	0.28	0.29	0.16

* Coefficients which are significant at the 0.05 level are flagged with an asterisk and displayed in bold face.

In this and all following tables the numbers reported in the rows labeled “# of Correlations” or “# of Multiple R²s” are the number of schools for which sufficient data were available to perform the analysis. Similarly, “# of Significant Correlations” and “# of Significant Multiple R²s” are the number of schools for which the computed coefficient was significant at the 0.05 level. “Percent Significant” is the ratio of the number of coefficients (the first row) divided by the number of significant coefficients (the second row) expressed as a percentage, and “Median Correlation” or “Median R²” is the value of the coefficient at the 50th percentile.

Table 2

**First Year Pre-Clinical Dental Technique Grades
Correlated with Pre-Dental GPA, Science GPA, and DAT Scores**

School Code	Pre-Dental GPA	Science GPA	Academic Average	Total Science	Quanti- tative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability
D22	0.08	0.13	0.19	0.20	-0.07	0.29*	0.16	0.21	0.10	0.25
D78	0.18	0.18	0.09	0.03	-0.09	0.15	-0.06	0.02	0.15	0.15
D82	0.46*	0.41*	0.22*	0.17*	0.11	0.17*	0.08	0.13	0.24*	0.44*
D91	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.17*	0.09	0.29*	0.24*	0.10	0.30*	0.24*	0.18*	0.19*	0.11
D98	0.46*	0.43*	0.35*	0.18	0.31*	0.36*	0.13	0.19	0.06	0.11
D77	0.09	0.22	0.07	0.08	0.22	-0.12	0.13	0.04	-0.04	0.33*
D06	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.32*	0.35*	0.17	0.24*	0.01	0.16	0.23*	0.22	0.08	0.24*
D13	0.24*	0.20	0.17	0.19	0.07	0.10	0.17	0.19	0.07	0.03
D55	0.09	0.14	0.00	0.12	0.03	-0.16	0.09	0.13	-0.05	0.20*
D47	0.21	0.25*	0.35*	0.34*	0.25*	0.09	0.26*	0.16	0.42*	0.24
D72	0.30*	0.40*	0.32*	0.28*	0.38*	0.11	0.12	0.29*	0.26	0.47*
D88	0.04	-0.05	0.16	0.09	0.21	0.21	0.18	-0.01	0.14	0.26*
D11	0.30*	0.31*	0.08	0.12	0.10	0.06	0.18	0.06	0.03	0.17
D81	0.30*	0.36*	0.19	0.29*	0.11	-0.01	0.33*	0.12	0.22	0.41*
D89	0.36*	0.34*	0.43*	0.51*	0.23	0.19	0.44*	0.25	0.33*	0.37*
D94	0.05	0.11	0.15	0.20	0.04	0.00	0.07	0.04	0.33*	0.41*
D61	0.32*	0.32*	0.01	0.22	-0.22	-0.07	0.30*	0.03	0.19	0.00
D99	0.19*	0.23*	0.13	0.12	0.15	0.09	0.10	0.09	0.03	0.51*
D56	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D93	0.02	0.00	-0.05	0.02	0.00	0.00	-0.07	-0.04	0.04	0.34*
D86	-0.08	-0.03	0.01	0.04	0.00	-0.10	-0.02	-0.01	0.12	0.24*
D41	0.31*	0.34*	0.22	0.14	0.24*	0.19	0.06	0.12	0.17	0.25*
D10	0.21*	0.20*	0.22*	0.22*	0.12	0.16	0.21*	0.16	0.13	0.31*
D23	0.40*	0.42*	0.36*	0.34*	0.24*	0.27*	0.26*	0.17	0.33*	0.15
D12	0.30	0.32	0.39*	0.28	0.25	0.06	0.30	0.16	0.16	0.16
D57	0.39*	0.45*	0.44*	0.39*	0.32*	0.19	0.36*	0.33*	0.22*	0.06
D39	0.30*	0.28*	0.24*	0.26*	0.17	0.00	0.25*	0.09	0.29*	0.42*
D38	0.51*	0.47*	0.22	0.40*	-0.15	-0.03	0.36*	0.19	0.32*	0.15
D09	0.24*	0.24*	0.34*	0.37*	0.14	0.17	0.39*	0.21*	0.18	0.15
D95	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D65	-0.02	0.03	0.17*	0.19*	0.13	0.08	0.24*	0.10	0.08	0.28*
D75	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.00	0.04	0.24*	0.24*	0.17	0.22*	0.28*	0.00	0.23*	0.18
D87	0.38*	0.43*	0.16	0.21	0.11	0.01	0.29*	0.10	0.01	0.22
D52	0.07	0.07	0.33*	0.22	0.13	0.41*	0.27*	0.12	0.19	0.29*
D70	0.26*	0.21*	0.21*	0.25*	-0.03	0.10	0.25*	0.25*	0.15	0.21*
D31	0.17	0.29*	0.18	0.17	0.13	0.20	0.22	0.08	0.11	0.27*
D49	0.18	0.36*	0.33*	0.25	0.23	0.16	0.17	0.31*	0.09	0.21
D03	0.13	0.19	0.27*	0.18	0.26*	0.21	0.16	0.21	0.00	0.27*
D71	0.25*	0.22*	0.11	0.15	-0.04	0.04	0.15	0.02	0.19*	0.22*
D26	0.08	0.21*	0.14	0.15	0.08	0.10	0.17	0.07	0.05	0.32*
D83	0.33*	0.35*	0.48*	0.39*	0.31*	0.44*	0.38*	0.26*	0.26*	0.19
D90	0.37*	0.39*	0.38*	0.40*	0.12	0.14	0.29*	0.47*	0.18	0.19
D44	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D53	0.42*	0.38*	0.20	0.14	0.16	0.13	0.10	0.07	0.09	0.20
D24	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D68	0.08	0.13	0.23*	0.18	0.25*	0.23	0.32*	0.04	-0.05	0.38*
D84	0.09	-0.02	0.20	0.18	0.04	0.13	0.14	0.14	0.16	0.10
D36	0.36*	0.35*	0.26*	0.15	0.27*	0.03	0.00	0.27*	0.22*	0.25*
D02	N/Av	N/Av	0.36*	0.28*	0.36*	0.28*	0.14	0.21	0.29*	0.31*
D76	0.32*	0.27	0.28	0.15	0.08	0.30*	0.10	0.07	0.05	0.13
D63	0.41*	0.44*	0.42*	0.30*	0.43*	0.32*	0.22	0.30*	0.17	0.26*
D33	-0.04	-0.02	0.14	0.27	-0.23	0.12	0.14	0.08	0.36*	-0.14
# of Correlations	47	47	48	48	48	48	48	48	48	48
# of Significant Correlations	27	28	24	20	12	11	20	10	15	26
Percent Significant	57%	60%	50%	42%	25%	23%	42%	21%	31%	54%
Median Correlation	0.24	0.25	0.22	0.21	0.13	0.14	0.18	0.13	0.16	0.24

Table 3

**First Year Grade Point Average
Correlated with Pre-Dental GPA, Science GPA, and DAT Scores**

School Code	Pre-Dental GPA	Science GPA	Academic Average	Total Science	Quanti- tative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability
D22	0.38*	0.35*	0.26	0.33*	-0.06	0.29*	0.26	0.25	0.28*	0.21
D78	0.44*	0.44*	0.36*	0.42*	-0.06	0.29*	0.29*	0.38*	0.33*	0.26
D82	0.60*	0.60*	0.45*	0.40*	0.26*	0.24*	0.24*	0.36*	0.42*	0.37*
D91	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.18*	0.12	0.20*	0.15	0.08	0.24*	0.14	0.15	0.11	0.19*
D98	0.34*	0.33*	0.46*	0.34*	0.25*	0.43*	0.30*	0.25*	0.24*	-0.01
D77	0.29*	0.40*	0.40*	0.41*	0.31*	0.31*	0.51*	0.21	0.15	0.15
D06	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.34*	0.27*	0.30*	0.37*	0.13	0.03	0.38*	0.30*	0.18	0.25*
D13	0.45*	0.44*	0.22	0.25*	0.11	0.14	0.13	0.26*	0.16	0.00
D55	0.40*	0.45*	0.29*	0.38*	0.16	-0.09	0.29*	0.25*	0.29*	0.15
D47	0.45*	0.43*	0.50*	0.46*	0.26*	0.28*	0.34*	0.26*	0.53*	0.11
D72	0.28*	0.39*	0.36*	0.32*	0.42*	0.09	0.15	0.30*	0.34*	0.43*
D88	0.21	0.17	0.33*	0.31*	0.20	0.23	0.38*	0.14	0.33*	0.33*
D11	0.50*	0.49*	0.26*	0.29*	0.22*	0.20*	0.30*	0.16	0.15	0.04
D81	0.52*	0.56*	0.45*	0.52*	0.23*	0.22	0.51*	0.31*	0.40*	0.38*
D89	0.49*	0.53*	0.48*	0.52*	0.23	0.41*	0.36*	0.31*	0.36*	0.04
D94	0.33*	0.38*	0.45*	0.46*	0.17	0.21	0.33*	0.33*	0.52*	0.38*
D61	0.47*	0.44*	0.31*	0.46*	-0.07	0.08	0.46*	0.28*	0.33*	0.01
D99	0.35*	0.35*	0.35*	0.31*	0.15	0.29*	0.19*	0.24*	0.24*	0.28*
D56	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D93	0.24*	0.26*	0.13	0.10	0.08	0.24*	0.12	0.04	-0.06	-0.02
D86	0.26*	0.36*	0.36*	0.37*	0.21*	0.11	0.37*	0.25*	0.35*	0.22*
D41	0.42*	0.45*	0.27*	0.24	0.28*	0.16	0.09	0.17	0.25*	0.08
D10	0.45*	0.44*	0.47*	0.45*	0.27*	0.34*	0.44*	0.33*	0.29*	0.32*
D23	0.52*	0.53*	0.36*	0.36*	0.23*	0.28*	0.28*	0.18	0.33*	-0.06
D12	0.43*	0.46*	0.34	0.25	0.12	0.28	0.30	0.12	0.04	0.11
D57	0.36*	0.42*	0.44*	0.38*	0.31*	0.22*	0.36*	0.32*	0.22*	0.06
D39	0.57*	0.59*	0.49*	0.50*	0.34*	0.08	0.46*	0.26*	0.46*	0.29*
D38	0.65*	0.56*	0.36*	0.48*	-0.03	0.05	0.46*	0.20	0.41*	0.07
D09	0.26*	0.28*	0.34*	0.35*	0.22*	0.11	0.34*	0.19	0.19	0.15
D95	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D65	0.06	0.03	0.25*	0.22*	0.20*	0.16*	0.25*	0.16*	0.08	0.19*
D75	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.04	0.08	0.33*	0.36*	0.22*	0.17	0.38*	0.10	0.30*	0.20
D87	0.44*	0.51*	0.32*	0.32*	0.18	0.17	0.46*	0.15	0.04	0.13
D52	0.35*	0.34*	0.45*	0.37*	0.25*	0.38*	0.30*	0.24*	0.36*	0.19
D70	0.49*	0.46*	0.41*	0.42*	0.27*	0.10	0.36*	0.37*	0.33*	0.12
D31	0.30*	0.37*	0.39*	0.33*	0.35*	0.28*	0.36*	0.21	0.25*	0.25*
D49	0.37*	0.50*	0.34*	0.36*	0.36*	0.09	0.40*	0.32*	0.05	0.17
D03	0.22	0.30*	0.48*	0.42*	0.32*	0.31*	0.38*	0.35*	0.21	0.28*
D71	0.26*	0.18*	0.23*	0.23*	0.02	0.12	0.16	0.15	0.21*	0.09
D26	0.39*	0.47*	0.42*	0.49*	0.17	0.24*	0.49*	0.28*	0.27*	0.23*
D83	0.29*	0.35*	0.49*	0.40*	0.33*	0.39*	0.39*	0.30*	0.28*	0.25*
D90	0.39*	0.42*	0.47*	0.44*	0.13	0.27*	0.38*	0.44*	0.18	0.16
D44	0.39*	0.40*	0.28*	0.23	0.17	0.19	0.26	0.15	0.12	0.13
D53	0.41*	0.28*	0.26*	0.31*	0.02	0.16	0.35*	0.08	0.25*	0.05
D24	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D68	0.12	0.22	0.28*	0.30*	0.18	0.23*	0.44*	0.08	0.02	0.25*
D84	0.40*	0.28*	0.48*	0.45*	0.30*	0.29*	0.37*	0.30*	0.38*	0.25*
D36	0.42*	0.44*	0.48*	0.48*	0.37*	-0.06	0.39*	0.51*	0.36*	0.24*
D02	N/Av	N/Av	0.47*	0.41*	0.35*	0.31*	0.24	0.35*	0.41*	0.28*
D76	0.38*	0.30*	0.30*	0.22	0.15	0.24	0.13	0.15	0.09	0.21
D63	0.60*	0.63*	0.59*	0.52*	0.52*	0.40*	0.39*	0.51*	0.31*	0.15
D33	0.03	0.09	0.08	0.20	-0.25	0.14	0.09	0.06	0.28	-0.09
# of Correlations	48	48	49	49	49	49	49	49	49	49
# of Significant Correlations	42	42	44	42	25	25	37	29	32	20
Percent Significant	88%	88%	90%	86%	51%	51%	76%	59%	65%	41%
Median Correlation	0.39	0.40	0.36	0.37	0.21	0.23	0.35	0.25	0.28	0.19

Table 4

First Year Biomedical Grades Regressed with Pre-Dental GPA, Science GPA, and DAT Scores

School Code	Pre-Dental GPA	Science GPA	DAT Academic Scores	All DAT Scores	All Predictors
D22	0.16*	0.12*	0.13	0.17	0.32*
D78	0.22*	0.22*	0.25*	0.32*	0.47*
D82	0.32*	0.36*	0.26*	0.30*	0.47*
D91	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.02	0.01	0.02	0.03	0.09
D98	0.09*	0.08*	0.34*	0.36*	0.39*
D77	0.08*	0.16*	0.29*	0.32*	0.36*
D06	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.14*	0.11*	0.13*	0.15	0.22*
D13	0.20*	0.22*	0.08	0.08	0.25*
D55	0.11*	0.14*	0.17*	0.18*	0.27*
D47	0.27*	0.22*	0.39*	0.39*	0.51*
D72	0.07	0.13*	0.14	0.32*	0.36*
D88	0.09*	0.08*	0.27*	0.30*	0.32*
D11	0.26*	0.24*	0.18*	0.20*	0.35*
D81	0.34*	0.36*	0.46*	0.46*	0.60*
D89	0.19*	0.24*	0.28*	0.31*	0.43*
D94	0.14*	0.17*	0.28*	0.30*	0.34*
D61	0.23*	0.21*	0.30*	0.32*	0.41*
D99	0.12*	0.11*	0.16*	0.17*	0.25*
D56	N/Av	N/Av	N/Av	N/Av	N/Av
D93	0.06*	0.09*	0.08	0.11	0.20*
D86	0.09*	0.15*	0.20*	0.21*	0.28*
D41	0.23*	0.26*	0.07	0.11	0.29*
D10	0.22*	0.23*	0.25*	0.26*	0.41*
D23	0.24*	0.25*	0.17*	0.21*	0.42*
D12	0.09	0.15*	0.25	0.31	0.63*
D57	0.12*	0.16*	0.20*	0.22*	0.29*
D39	0.34*	0.37*	0.33*	0.40*	0.56*
D38	0.45*	0.32*	0.33*	0.34*	0.57*
D09	0.01	0.02	0.05	0.20*	0.23*
D95	N/Av	N/Av	N/Av	N/Av	N/Av
D65	0.01	0.02*	0.08*	0.10*	0.11*
D75	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.01	0.01	0.20*	0.23*	0.27*
D87	0.17*	0.23*	0.28*	0.29*	0.43*
D52	0.15*	0.14*	0.23*	0.25*	0.35*
D70	0.19*	0.18*	0.19*	0.21*	0.32*
D31	0.10*	0.13*	0.17*	0.23*	0.29*
D49	0.13*	0.22*	0.25*	0.25*	0.47*
D03	0.05*	0.09*	0.27*	0.28*	0.32*
D71	0.07*	0.01	0.06	0.07	0.14*
D26	0.10*	0.17*	0.30*	0.30*	0.38*
D83	0.08*	0.12*	0.27*	0.31*	0.33*
D90	0.15*	0.17*	0.30*	0.30*	0.44*
D44	N/Av	N/Av	N/Av	N/Av	N/Av
D53	0.27*	0.15*	0.31*	0.32*	0.51*
D24	N/Av	N/Av	N/Av	N/Av	N/Av
D68	0.02	0.05	0.21*	0.23*	0.30*
D84	0.20*	0.10*	0.31*	0.31*	0.50*
D36	0.15*	0.17*	0.37*	0.39*	0.45*
D02	N/Av	N/Av	N/Av	N/Av	N/Av
D76	0.12*	0.08	0.09	0.11	0.24
D63	0.33*	0.37*	0.35*	0.41*	0.55*
D33	0.00	0.02	0.16	0.23	0.29
# of Multiple R ² s	47	47	47	47	47
# of Significant Multiple R ² s	39	40	36	37	44
Percent Significant	83%	85%	77%	79%	94%
Median R-Square	0.14	0.15	0.25	0.26	0.35

In this and all following tables, "DAT Academic Scores" refers to the DAT Reading Comprehension, Biology, General Chemistry, Organic Chemistry, and Quantitative Reasoning tests, "All DAT Scores" refers to the DAT academic scores plus the Perceptual Ability test, and "All Predictors" refers to all DAT scores plus Pre-dental GPA and undergraduate science GPAs.

Table 5

**First Year Pre-Clinical Dental Technique Grades Regressed with Pre-Dental GPA,
Science GPA, and DAT Scores**

School Code	Pre-Dental GPA	Science GPA	DAT Academic Scores	All DAT Scores	All Predictors
D22	0.01	0.02	0.10	0.21	0.22
D78	0.03	0.03	0.06	0.11	0.16
D82	0.21*	0.17*	0.07	0.23*	0.38*
D91	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.03*	0.01	0.13*	0.14*	0.20*
D98	0.21*	0.18*	0.18*	0.22*	0.39*
D77	0.01	0.04	0.05	0.20	0.27
D06	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.14*	0.15*	0.12	0.18*	0.31*
D13	0.04	0.03	0.06	0.06	0.08
D55	0.01	0.02	0.09	0.12	0.14
D47	0.05	0.06*	0.20*	0.25*	0.27*
D72	0.09*	0.16*	0.10	0.31*	0.38*
D88	0.01	0.00	0.12	0.21*	0.26*
D11	0.09*	0.10*	0.03	0.06	0.18*
D81	0.09*	0.13*	0.15*	0.26*	0.37*
D89	0.12*	0.11*	0.26*	0.35*	0.50*
D94	0.00	0.01	0.18*	0.33*	0.33*
D61	0.10*	0.10*	0.14	0.19	0.22
D99	0.04*	0.05*	0.02	0.30*	0.33*
D56	N/Av	N/Av	N/Av	N/Av	N/Av
D93	0.00	0.00	0.01	0.15*	0.15
D86	0.01	0.00	0.03	0.12*	0.13*
D41	0.11*	0.13*	0.05	0.10	0.24*
D10	0.05*	0.05*	0.06	0.12*	0.17*
D23	0.16*	0.18*	0.18*	0.22*	0.36*
D12	0.08	0.14*	0.10	0.21	0.55*
D57	0.16*	0.20*	0.18*	0.20*	0.30*
D39	0.09*	0.08*	0.12*	0.26*	0.32*
D38	0.26*	0.23*	0.19	0.28*	0.40*
D09	0.06*	0.06*	0.16*	0.17*	0.21*
D95	N/Av	N/Av	N/Av	N/Av	N/Av
D65	0.00	0.00	0.06*	0.14*	0.14*
D75	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.00	0.00	0.17*	0.21*	0.22*
D87	0.14*	0.17*	0.10	0.13	0.26*
D52	0.00	0.00	0.20*	0.23*	0.23*
D70	0.07*	0.05*	0.09	0.16*	0.20*
D31	0.03	0.08*	0.08	0.13	0.22
D49	0.03	0.13*	0.11	0.12	0.31*
D03	0.02	0.04	0.10	0.14	0.16
D71	0.06*	0.04*	0.05	0.09	0.17*
D26	0.01	0.05*	0.04	0.15*	0.19*
D83	0.11*	0.13*	0.28*	0.29*	0.31*
D90	0.14*	0.15*	0.27*	0.29*	0.41*
D44	N/Av	N/Av	N/Av	N/Av	N/Av
D53	0.18*	0.14*	0.03	0.07	0.25*
D24	N/Av	N/Av	N/Av	N/Av	N/Av
D68	0.01	0.02	0.14*	0.28*	0.31*
D84	0.01	0.00	0.05	0.05	0.13
D36	0.13*	0.13*	0.12*	0.15*	0.24*
D02	N/Av	N/Av	N/Av	N/Av	N/Av
D76	0.07	0.05	0.11	0.12	0.17
D63	0.18*	0.20*	0.14*	0.23*	0.30*
D33	0.00	0.00	0.19	0.25	0.30
# of Multiple R ² s	47	47	47	47	47
# of Significant Multiple R ² s	25	29	18	29	35
Percent Significant	53%	62%	38%	62%	74%
Median R-Square	0.06	0.06	0.11	0.19	0.25

Table 6

First Year Grade Point Average Regressed with Pre-Dental GPA, Science GPA, and DAT Scores

School Code	Pre-Dental GPA	Science GPA	DAT Academic Scores	All DAT Scores	All Predictors
D22	0.15*	0.12*	0.14	0.21	0.33*
D78	0.19*	0.20*	0.19*	0.27*	0.40*
D82	0.36*	0.37*	0.23*	0.30*	0.50*
D91	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.03*	0.01	0.07*	0.08	0.14*
D98	0.11*	0.10*	0.31*	0.33*	0.38*
D77	0.08*	0.16*	0.29*	0.34*	0.38*
D06	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.16*	0.10*	0.15*	0.18*	0.26*
D13	0.20*	0.18*	0.07	0.09	0.22*
D55	0.16*	0.20*	0.15*	0.16*	0.32*
D47	0.20*	0.19*	0.35*	0.36*	0.44*
D72	0.08*	0.15*	0.14	0.34*	0.39*
D88	0.07*	0.05	0.26*	0.29*	0.32*
D11	0.25*	0.24*	0.13*	0.14*	0.32*
D81	0.27*	0.31*	0.32*	0.34*	0.49*
D89	0.24*	0.27*	0.33*	0.34*	0.51*
D94	0.11*	0.14*	0.28*	0.34*	0.37*
D61	0.22*	0.19*	0.25*	0.27*	0.36*
D99	0.12*	0.12*	0.15*	0.16*	0.26*
D56	N/Av	N/Av	N/Av	N/Av	N/Av
D93	0.06*	0.06*	0.08	0.09	0.17*
D86	0.06*	0.11*	0.18*	0.19*	0.24*
D41	0.22*	0.25*	0.07	0.10	0.29*
D10	0.22*	0.21*	0.25*	0.28*	0.43*
D23	0.26*	0.27*	0.18*	0.22*	0.43*
D12	0.19*	0.21*	0.18	0.21	0.62*
D57	0.13*	0.17*	0.18*	0.21*	0.28*
D39	0.32*	0.34*	0.32*	0.39*	0.55*
D38	0.43*	0.31*	0.30*	0.32*	0.53*
D09	0.07*	0.07*	0.16*	0.17*	0.22*
D95	N/Av	N/Av	N/Av	N/Av	N/Av
D65	0.01	0.01	0.08*	0.11*	0.12*
D75	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.00	0.01	0.20*	0.23*	0.27*
D87	0.20*	0.25*	0.23*	0.23*	0.40*
D52	0.12*	0.11*	0.22*	0.24*	0.32*
D70	0.25*	0.22*	0.20*	0.20*	0.36*
D31	0.10*	0.14*	0.18*	0.24*	0.32*
D49	0.14*	0.25*	0.25*	0.26*	0.52*
D03	0.05	0.09*	0.25*	0.28*	0.30*
D71	0.08*	0.03	0.09*	0.10	0.18*
D26	0.15*	0.22*	0.29*	0.30*	0.41*
D83	0.09*	0.12*	0.25*	0.28*	0.30*
D90	0.15*	0.17*	0.31*	0.31*	0.46*
D44	N/Av	N/Av	N/Av	N/Av	N/Av
D53	0.32*	0.19*	0.22*	0.25*	0.49*
D24	N/Av	N/Av	N/Av	N/Av	N/Av
D68	0.02	0.05	0.22*	0.26*	0.32*
D84	0.16*	0.08*	0.25*	0.25*	0.38*
D36	0.18*	0.19*	0.35*	0.38*	0.45*
D02	N/Av	N/Av	N/Av	N/Av	N/Av
D76	0.11*	0.07	0.09	0.11	0.21
D63	0.37*	0.40*	0.32*	0.41*	0.56*
D33	0.00	0.00	0.13	0.21	0.26
# of Multiple R ² s	47	47	47	47	47
# of Significant Multiple R ² s	42	39	39	38	45
Percent Significant	89%	83%	83%	81%	96%
Median R-Square	0.15	0.17	0.22	0.25	0.36

Table 7**Number and Percentage of Schools with Significant Correlations of First Year Biomedical Grades with Undergraduate GPAs and DAT Scores**

	Pre-GPA	Science GPA	Academic Average	Total Science	Quantitative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability	AVG
2002-2003	85% (39)	87% (40)	91% (42)	89% (41)	46% (21)	54% (25)	74% (34)	74% (34)	70% (32)	24% (11)	69%
2003-2004	82% (41)	80% (40)	83% (38)	78% (36)	46% (21)	48% (22)	70% (32)	61% (28)	72% (33)	28% (13)	65%
2004-2005	87% (40)	87% (40)	91% (40)	93% (41)	45% (20)	45% (20)	80% (35)	68% (30)	82% (36)	41% (18)	72%
2005-2006	81% (39)	81% (39)	86% (42)	92% (45)	45% (22)	53% (26)	73% (36)	61% (30)	73% (36)	37% (18)	68%

Table 8

Number and Percentage of Schools with Significant Correlations of First Year Pre-Clinical Dental Technique Grades with Undergraduate GPAs and DAT Scores

	Pre-GPA	Science GPA	Academic Average	Total Science	Quantitative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability	AVG
2002-2003	53% (24)	53% (24)	36% (16)	24% (11)	22% (10)	24% (11)	22% (10)	29% (13)	18% (8)	60% (27)	34%
2003-2004	37% (18)	49% (24)	38% (17)	33% (15)	20% (9)	27% (12)	31% (14)	27% (12)	29% (13)	58% (26)	35%
2004-2005	58% (26)	62% (28)	49% (21)	44% (19)	23% (10)	21% (9)	28% (12)	30% (13)	33% (14)	65% (28)	41%
2005-2006	57% (27)	60% (28)	50% (24)	42% (20)	25% (12)	23% (11)	42% (20)	21% (10)	31% (15)	54% (26)	41%

Table 9**Number and Percentage of Schools with Significant Correlations of First Year Grade Point Average with Undergraduate GPAs and DAT Scores**

	Pre-GPA	Science GPA	Academic Average	Total Science	Quantitative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability	AVG
2002-2003	85% (40)	87% (41)	87% (41)	87% (41)	45% (21)	57% (27)	64% (30)	72% (34)	66% (31)	38% (18)	69%
2003-2004	83% (40)	83% (40)	80% (36)	76% (34)	38% (17)	49% (22)	62% (28)	53% (24)	67% (30)	36% (16)	63%
2004-2005	87% (40)	91% (42)	93% (41)	95% (42)	50% (22)	48% (21)	75% (33)	68% (30)	70% (31)	45% (20)	72%
2005-2006	88% (42)	88% (42)	90% (44)	86% (42)	51% (25)	51% (25)	76% (37)	59% (29)	65% (32)	41% (20)	70%

PART II

Correlations among Undergraduate GPAs, DAT Scores, and Second-year Dental School Grades

In Part II, undergraduate GPAs and DAT scores are correlated with second-year dental school grades, as shown in Tables 10 through 12. Table 10 presents the correlation coefficients among undergraduate GPAs, DAT scores, and second-year biomedical grades. Table 11 shows the correlation coefficients among undergraduate GPAs, DAT scores, and second-year pre-clinical dental technique grades. Table 12 provides the correlation coefficients among undergraduate GPAs, DAT scores, and second-year grade point average. The results are summarized below.

1. Pre-dental GPA, science GPA, and two DAT composite scores are similar in their level of association with biomedical grades in the second year of dental school (Table 10). Two DAT composite scores and the reading comprehension score appear to be more strongly related to second-year biomedical grades than are the quantitative reasoning score or the perceptual ability score. The correlations of second-year biomedical grades with pre-dental GPA, science GPA, and DAT scores tend to be lower than the correlations of corresponding first-year biomedical grades, as compared to Table 1.

2. The correlations of pre-dental GPA, science GPA, two DAT composite scores, and five individual DAT scores with second-year pre-clinical dental technique grades (Table 11) are lower than they are with second-year biomedical grades (Table 10) or second-year grade point average (Table 12) with the exception of the perceptual ability score. The perceptual ability score is the predictor most strongly related to second-year pre-clinical dental technique grades. This is also true for the first-year pre-clinical dental technique grades, as shown in Table 2.

3. The pattern of correlations of second-year grade point average with pre-dental GPA, science GPA, and DAT scores (Table 12) is similar to that of second-year biomedical grades (Table 10). Pre-dental GPA, science GPA, and two DAT composite scores are the most important predictors in their level of association with second-year grade point average. DAT science scores are correlated with second-year grade point average more strongly than are the quantitative reasoning score, reading comprehension score, or the perceptual ability score. The same pattern is found for correlations of first-year grade point average with pre-dental GPA and DAT scores (Table 3).

The multiple correlations of second-year biomedical grades, pre-clinical dental technique grades, and grade point average with five other variables: pre-dental GPA, science GPA, DAT academic scores, all DAT scores, and all predictors (combining pre-dental GPA, science GPA, DAT academic scores, and all DAT scores) are presented in Tables 13 through 15. Overall, the multiple correlation using pre-dental GPA and science GPA as well as all DAT scores results in the greatest amount of explained variance in second-year biomedical grades (30%), pre-clinical dental technique grades (27%), and grade point average (31%). The rest of results are summarized below.

1. In Table 13, 10% of the variance in second-year biomedical grades has been explained by pre-dental GPA; 13% of the variance by science GPA; 15% by DAT

academic scores; and 18% by all DAT scores. When the perceptual ability score is included as a predictor, an increase of 3% in the variance in second-year biomedical grades is accounted for.

2. In Table 14, 8% of the variance in second-year pre-clinical dental technique grades is accounted for by pre-dental GPA and 10% is accounted for by science GPA, respectively; 10% of the variance is accounted for by DAT academic scores; and 17% of the variance is explained by all DAT scores. The explained variance is increased by 7% when the perceptual ability score is included as a predictor. The finding suggests that second-year pre-clinical dental technique grades are best predicted by the Perceptual Ability Test than by any other measure.

3. In Table 15, the variance in second-year grade point average explained by each of the predictors is: pre-dental GPA (13%), science GPA (14%), DAT academic scores (15%), and all DAT scores (20%). When the perceptual ability score is included as a predictor, the explained variance is increased by 5%. This pattern of the median explained variance is similar to the pattern displayed for second-year biomedical grades (Table 13).

The finding from a series of correlations of the second-year dental-school performance with all predictor variables, as shown in Tables 10 through 15, indicates significant positive correlation between undergraduate GPAs, the DAT academic scores, and second-year biomedical grades and grade point average. The Perceptual Ability Test demonstrates the strongest predictor of second-year pre-clinical dental techniques grades. Overall, the greatest amount of variance in achievements of second-year students in dental schools has been explained when all DAT scores and both undergraduate GPAs are included as predictors.

Number and percentage of schools with significant correlations (at the 0.05 level of significance) of second-year grades with undergraduate GPAs and DAT scores over four years of DAT administrations, 2002-2003 to 2005-2006, are presented in Tables 16 through 18. As shown in these tables, DAT Academic Average is the most significant predictor of the second-year biomedical grades for a large proportion of schools over a four year period. Beside pre-dental GPA and science GPA, DAT Academic Average and the perceptual ability score are the significant predictors of the second-year pre-clinical dental technique grades for a large proportion of schools over four years of DAT administrations, 2002-2003 to 2005-2006, however. DAT Academic Average, pre-dental GPA, and science GPA are the most significant predictors of the second-year grade point average for a large proportion of schools over a four year period, 2002-2003 to 2005-2006.

Table 10

**Second Year Biomedical Grades
Correlated with Pre-Dental GPA, Science GPA, and DAT Scores**

School Code	Pre-Dental GPA	Science GPA	Academic Average	Total Science	Quantitative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability
D22	0.20	0.16	0.37*	0.32*	0.25	0.11	0.11	0.12	0.39*	0.01
D78	N/Av	N/Av	-0.04	-0.03	-0.12	-0.08	-0.02	-0.04	0.00	-0.14
D82	0.46*	0.52*	0.39*	0.47*	0.11	0.10	0.36*	0.37*	0.36*	-0.05
D91	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D97	-0.06	-0.05	0.21*	0.13	0.14	0.24*	0.17*	0.09	0.10	0.25*
D98	0.50*	0.51*	0.36*	0.34*	0.18	0.30*	0.36*	0.24*	0.21	-0.13
D77	0.41*	0.47*	0.48*	0.42*	0.23	0.33*	0.46*	0.26	0.33*	0.16
D06	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.26*	0.20	0.26*	0.20	0.18	0.32*	0.19	0.26*	0.06	0.12
D13	N/Av	N/Av	0.33*	0.37*	0.05	0.21	0.35*	0.27*	0.27*	0.03
D55	0.29*	0.25*	0.35*	0.25*	0.31*	0.24*	0.07	0.29*	0.32*	0.01
D47	0.32*	0.28*	0.50*	0.48*	0.09	0.41*	0.25	0.51*	0.42*	0.03
D72	N/Av	N/Av	0.06	0.23	-0.24	0.23	0.16	0.15	0.01	0.01
D88	0.51*	0.52*	0.37*	0.35*	0.17	0.20	0.26*	0.35*	0.30*	0.09
D11	0.51*	0.49*	0.26*	0.11	0.21*	0.36*	0.08	0.15	0.03	0.13
D81	0.40*	0.41*	0.46*	0.36*	0.27*	0.17	0.26*	0.39*	0.35*	0.22
D89	N/Av	N/Av	0.36*	0.33*	0.16	0.22	0.28*	0.26	0.26	0.15
D94	0.34*	0.32*	0.46*	0.32*	0.24*	0.39*	0.09	0.37*	0.29*	0.10
D61	0.47*	0.36*	0.15	0.15	0.26*	0.10	0.11	0.13	0.03	-0.09
D99	0.32*	0.29*	0.27*	0.18	0.33*	0.24*	0.15	0.07	0.07	-0.01
D56	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D93	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D86	0.30*	0.29*	0.26*	0.24*	0.16	0.27*	0.20*	0.13	0.16	-0.02
D41	0.46*	0.54*	0.27*	0.26*	-0.01	0.24*	0.10	0.18	0.26*	-0.05
D10	0.49*	0.38*	0.28*	0.28*	0.19*	0.24*	0.19*	0.27*	0.16	0.18
D23	0.30*	0.36*	0.32*	0.37*	-0.02	0.21*	0.24*	0.29*	0.31*	0.00
D12	0.34	0.33	0.73*	0.71*	0.54*	0.25	0.60*	0.61*	0.64*	0.19
D57	0.29*	0.37*	0.30*	0.31*	0.16	0.12	0.21*	0.25*	0.27*	-0.01
D39	0.18	0.35*	0.37*	0.23*	0.24*	0.43*	0.15	0.15	0.26*	0.10
D38	0.43*	0.58*	0.30*	0.20	0.42*	0.21	0.09	0.21	0.27	0.05
D09	0.31*	0.36*	0.39*	0.31*	0.18	0.17	0.28*	0.15	0.26*	0.11
D95	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D65	-0.24	-0.18	0.12	0.18*	-0.03	0.09	0.23*	0.12	0.08	-0.01
D75	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.26*	0.38*	0.37*	0.34*	0.25*	0.13	0.28*	0.20	0.40*	-0.03
D87	0.20	0.19	0.36*	0.34*	0.18	0.27*	0.26*	0.37*	0.26*	0.09
D52	0.13	0.09	0.50*	0.57*	0.33*	0.28*	0.50*	0.52*	0.42*	0.30*
D70	0.23*	0.30*	0.23*	0.29*	0.03	0.01	0.22*	0.26*	0.23*	-0.02
D31	0.32*	0.30*	0.39*	0.42*	0.08	0.19	0.33*	0.39*	0.25*	-0.20
D49	0.22	0.21	0.33*	0.30*	0.28*	0.07	0.18	0.26	0.24	0.12
D03	0.43*	0.43*	0.35*	0.29*	0.20	0.16	0.28*	0.20	0.25*	0.37*
D71	0.28*	0.29*	0.22*	0.17	0.19*	0.11	0.25*	0.16	0.04	-0.01
D26	0.37*	0.36*	0.38*	0.35*	0.26*	0.32*	0.30*	0.19*	0.29*	0.17
D83	N/Av	N/Av	0.33*	0.29*	0.29*	0.24	0.21	0.31*	0.17	0.11
D90	0.56*	0.61*	0.34*	0.41*	0.13	0.07	0.26	0.45*	0.32*	0.18
D44	0.20	0.19	0.33*	0.31*	0.35*	0.04	0.32*	0.32*	0.19	0.14
D53	0.55*	0.46*	0.36*	0.31*	0.23*	0.32*	0.16	0.32*	0.09	0.26*
D24	0.43*	0.48*	0.28*	0.17	0.21*	0.27*	0.22*	0.10	0.13	0.18
D68	0.36*	0.28*	0.11	0.28*	-0.13	-0.16	0.25	0.17	0.20	-0.24
D84	0.28*	0.21	0.16	0.06	0.22*	0.09	0.08	0.06	0.13	0.16
D36	0.08	0.14	0.33*	0.34*	0.09	0.14	0.23*	0.37*	0.23*	0.08
D02	0.31*	0.36*	0.04	0.11	-0.09	0.13	0.17	0.08	-0.05	0.12
D76	0.27	0.31*	0.35*	0.37*	0.09	0.02	0.21	0.53*	0.31*	0.15
D63	0.51*	0.51*	0.18	0.16	0.07	0.29*	0.26*	-0.01	0.17	-0.04
D33	0.38*	0.40*	0.26	0.28	0.21	0.15	0.42*	0.33*	0.12	0.06
# of Correlations	44	44	49	49	49	49	49	49	49	49
# of Significant Correlations	33	33	40	35	20	20	28	25	25	4
Percent Significant	75%	75%	82%	71%	41%	41%	57%	51%	51%	8%
Median Correlation	0.32	0.36	0.33	0.30	0.18	0.21	0.23	0.26	0.25	0.09

Table 11

**Second Year Pre-Clinical Dental Technique Grades
Correlated with Pre-Dental GPA, Science GPA, and DAT Scores**

School Code	Pre-Dental GPA	Science GPA	Academic Average	Total Science	Quantitative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability
D22	0.10	0.09	0.03	0.12	0.08	-0.16	-0.09	0.05	0.16	0.17
D78	N/Av	N/Av	0.21	0.28	0.07	-0.03	0.19	0.24	0.26	0.10
D82	0.33*	0.35*	0.17*	0.22*	-0.07	0.09	0.16	0.13	0.19*	0.07
D91	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.06	0.05	0.33*	0.31*	0.19*	0.26*	0.32*	0.20*	0.20*	0.11
D98	0.41*	0.47*	0.26*	0.19	0.21	0.19	0.21	0.20	0.09	0.05
D77	0.39*	0.48*	0.39*	0.33*	0.23	0.42*	0.35*	0.24	0.22	0.21
D06	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.27*	0.30*	0.19	0.16	0.18	0.32*	0.07	0.27*	0.00	0.31*
D13	N/Av	N/Av	0.29*	0.34*	0.05	0.16	0.28*	0.33*	0.20	0.04
D55	0.15	0.18	0.25*	0.24*	0.20*	0.02	0.15	0.16	0.35*	0.35*
D47	0.14	0.20	0.34*	0.31*	0.20	0.16	0.13	0.33*	0.29*	0.35*
D72	N/Av	N/Av	0.04	0.11	-0.05	0.16	0.06	0.08	-0.02	0.13
D88	0.34*	0.36*	0.29*	0.27*	0.11	0.21	0.20	0.31*	0.20	0.13
D11	0.37*	0.39*	0.26*	0.15	0.18	0.36*	0.16	0.09	0.08	0.18
D81	0.42*	0.44*	0.40*	0.34*	0.33*	0.06	0.38*	0.30*	0.29*	0.40*
D89	N/Av	N/Av	0.36*	0.26	0.37*	0.16	0.03	0.34*	0.27*	0.26
D94	0.42*	0.42*	0.43*	0.34*	0.28*	0.18	0.21	0.32*	0.35*	0.29*
D61	0.38*	0.29*	0.27*	0.24	0.33*	0.10	0.24	0.25	0.09	0.10
D99	0.31*	0.24*	0.20*	0.17	0.16	0.23*	0.20*	0.02	0.06	0.18
D56	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D93	0.19	0.17	0.22*	0.20	0.15	0.03	0.18	0.21*	0.15	0.54*
D86	0.35*	0.35*	0.25*	0.20*	0.20*	0.23*	0.15	0.15	0.10	0.08
D41	0.47*	0.58*	0.24	0.20	0.07	0.21	0.12	0.09	0.20	0.08
D10	0.49*	0.42*	0.14	0.06	0.18	0.13	-0.07	0.16	0.09	0.26*
D23	0.11	0.17	0.19	0.23*	-0.04	0.08	0.15	0.16	0.25*	0.17
D12	0.23	0.15	0.56*	0.57*	0.44*	0.15	0.45*	0.56*	0.50*	0.01
D57	0.32*	0.39*	0.30*	0.22*	0.23*	0.25*	0.15	0.21*	0.22*	0.09
D39	0.09	0.18	0.23*	0.27*	0.12	0.00	0.22*	0.15	0.27*	0.33*
D38	0.24	0.50*	0.29	0.25	0.35*	0.18	0.22	0.21	0.29	0.34*
D09	0.27*	0.36*	0.00	-0.09	0.24*	-0.16	-0.09	0.13	-0.17	0.17
D95	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D65	-0.20	0.01	0.04	0.05	0.04	0.02	0.09	0.05	0.00	0.16*
D75	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.03	0.28*	0.20	0.21	0.23*	0.00	0.13	0.11	0.22*	0.40*
D87	0.28*	0.24	0.15	0.15	0.03	0.10	0.14	0.12	0.16	0.14
D52	0.23	0.20	0.47*	0.55*	0.30*	0.18	0.50*	0.49*	0.46*	0.30*
D70	-0.06	-0.04	-0.01	-0.01	0.10	-0.03	-0.01	0.04	-0.03	0.27*
D31	0.05	0.13	0.24	0.23	-0.13	0.24	0.19	0.21	0.18	0.13
D49	0.28*	0.28*	0.13	0.08	0.22	-0.21	-0.02	0.07	0.16	0.25
D03	0.30*	0.32*	0.24*	0.12	0.19	0.19	0.13	0.11	0.10	0.48*
D71	0.21*	0.22*	0.24*	0.20*	0.23*	0.06	0.23*	0.20*	0.06	0.10
D26	0.12	0.13	0.21*	0.20*	0.25*	0.07	0.12	0.15	0.18	0.53*
D83	N/Av	N/Av	0.34*	0.22	0.36*	0.32*	0.19	0.30*	0.04	0.14
D90	0.53*	0.61*	0.23	0.29*	0.17	0.02	0.13	0.27	0.27	0.31*
D44	0.35*	0.40*	0.31	0.25	0.26	0.14	0.47*	0.10	0.16	0.37*
D53	0.44*	0.43*	0.19	0.11	0.26*	0.11	0.08	0.15	-0.06	0.43*
D24	0.42*	0.45*	0.41*	0.27*	0.43*	0.32*	0.24*	0.18	0.17	0.41*
D68	0.22	0.11	0.21	0.08	0.20	0.07	0.06	0.17	-0.03	0.22
D84	0.23*	0.24*	0.08	0.11	0.10	-0.18	-0.07	0.17	0.17	0.38*
D36	0.20	0.20	0.36*	0.24*	0.21*	0.19	0.19	0.30*	0.20	0.37*
D02	0.23	0.31*	0.09	0.15	0.09	0.11	0.18	0.02	-0.08	0.45*
D76	0.43*	0.46*	0.30*	0.29	0.14	0.04	0.16	0.46*	0.21	0.26
D63	0.59*	0.56*	0.15	0.08	0.11	0.21	0.14	0.05	0.08	0.09
D33	0.33*	0.37*	0.28	0.25	0.41*	0.09	0.26	0.26	0.24	0.25
# of Correlations	45	45	50	50	50	50	50	50	50	50
# of Significant Correlations	27	29	27	20	20	9	11	16	13	22
Percent Significant	60%	64%	54%	40%	40%	18%	22%	32%	26%	44%
Median Correlation	0.28	0.30	0.24	0.22	0.20	0.14	0.16	0.18	0.18	0.24

Table 12

**Second Year Grade Point Average
Correlated with Pre-Dental GPA, Science GPA, and DAT Scores**

School Code	Pre-Dental GPA	Science GPA	Academic Average	Total Science	Quantitative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability
D22	0.14	0.10	0.23	0.19	0.24	0.02	-0.01	0.05	0.27*	0.09
D78	N/Av	N/Av	0.52*	0.55*	0.30*	0.18	0.46*	0.47*	0.46*	0.26
D82	0.45*	0.50*	0.36*	0.42*	0.07	0.13	0.31*	0.32*	0.35*	0.00
D91	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.01	0.01	0.33*	0.28*	0.20*	0.29*	0.30*	0.19*	0.19*	0.20*
D98	0.45*	0.49*	0.30*	0.27*	0.18	0.25*	0.30*	0.22*	0.13	-0.08
D77	0.44*	0.43*	0.28	0.20	0.19	0.35*	0.33*	0.12	0.06	-0.07
D06	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.29*	0.25*	0.30*	0.24	0.18	0.36*	0.19	0.31*	0.09	0.12
D13	N/Av	N/Av	0.29*	0.34*	0.02	0.17	0.36*	0.27*	0.21	-0.04
D55	0.39*	0.37*	0.38*	0.30*	0.31*	0.19	0.12	0.34*	0.36*	0.12
D47	0.29*	0.31*	0.50*	0.47*	0.23	0.33*	0.25	0.51*	0.39*	0.29*
D72	N/Av	N/Av	0.05	0.17	-0.13	0.20	0.11	0.11	0.00	0.08
D88	0.41*	0.43*	0.33*	0.31*	0.13	0.22	0.23	0.34*	0.24	0.12
D11	0.44*	0.46*	0.28*	0.14	0.21*	0.39*	0.13	0.12	0.07	0.18
D81	0.48*	0.51*	0.59*	0.52*	0.35*	0.23	0.40*	0.52*	0.42*	0.40*
D89	N/Av	N/Av	0.39*	0.36*	0.21	0.18	0.24	0.30*	0.34*	0.27
D94	0.41*	0.39*	0.50*	0.36*	0.30*	0.34*	0.14	0.38*	0.35*	0.20
D61	0.45*	0.35*	0.24	0.22	0.32*	0.10	0.22	0.22	0.07	-0.02
D99	0.34*	0.29*	0.31*	0.22*	0.31*	0.34*	0.21*	0.08	0.06	0.06
D56	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D93	0.27*	0.25*	0.36*	0.24*	0.20	0.26*	0.23*	0.26*	0.11	0.37*
D86	0.43*	0.40*	0.35*	0.31*	0.22*	0.35*	0.27*	0.21*	0.17*	0.05
D41	0.49*	0.59*	0.30*	0.28*	0.02	0.24*	0.12	0.21	0.29*	0.03
D10	0.59*	0.50*	0.24*	0.18	0.22*	0.24*	0.09	0.19	0.14	0.24*
D23	0.27*	0.36*	0.34*	0.40*	-0.02	0.19	0.25*	0.25*	0.44*	0.02
D12	0.37	0.33	0.74*	0.75*	0.53*	0.20	0.65*	0.73*	0.64*	0.26
D57	0.34*	0.43*	0.40*	0.36*	0.32*	0.23*	0.25*	0.31*	0.30*	0.19
D39	0.21	0.36*	0.41*	0.32*	0.28*	0.33*	0.20	0.18	0.36*	0.28*
D38	0.33*	0.57*	0.39*	0.34*	0.42*	0.25	0.30*	0.31*	0.33*	0.25
D09	0.35*	0.41*	0.29*	0.20	0.23	0.08	0.20	0.12	0.13	0.16
D95	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D65	-0.16	-0.14	0.12	0.17*	0.01	0.11	0.18*	0.13	0.07	0.06
D75	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.18	0.38*	0.31*	0.33*	0.23*	0.07	0.25*	0.18	0.35*	0.19
D87	0.26*	0.21	0.28*	0.28*	0.11	0.20	0.21	0.27*	0.25*	0.17
D52	0.19	0.17	0.52*	0.60*	0.33*	0.24*	0.54*	0.54*	0.47*	0.32*
D70	0.29*	0.32*	0.36*	0.40*	0.17	0.07	0.32*	0.34*	0.34*	0.17
D31	0.26*	0.28*	0.37*	0.40*	0.01	0.21	0.31*	0.40*	0.24	-0.12
D49	0.32*	0.31*	0.23	0.19	0.27*	-0.11	0.06	0.18	0.20	0.18
D03	0.35*	0.32*	0.22	0.11	0.15	0.17	0.13	0.09	0.13	0.45*
D71	0.34*	0.34*	0.34*	0.27*	0.23*	0.15	0.28*	0.27*	0.12	0.10
D26	0.43*	0.41*	0.40*	0.34*	0.28*	0.36*	0.33*	0.19*	0.28*	0.30*
D83	N/Av	N/Av	0.45*	0.33*	0.37*	0.44*	0.24	0.40*	0.15	0.29*
D90	0.57*	0.64*	0.28*	0.35*	0.17	0.03	0.19	0.35*	0.30*	0.28*
D44	0.33*	0.34*	0.38*	0.29	0.34*	0.17	0.42*	0.20	0.17	0.31*
D53	0.58*	0.50*	0.38*	0.31*	0.30*	0.32*	0.11	0.35*	0.09	0.31*
D24	0.47*	0.57*	0.52*	0.44*	0.39*	0.34*	0.35*	0.36*	0.23*	0.31*
D68	0.31*	0.21	0.23	0.23	0.10	-0.02	0.19	0.20	0.13	-0.01
D84	0.38*	0.33*	0.30*	0.20	0.34*	0.06	0.10	0.20	0.27*	0.36*
D36	0.20	0.22*	0.44*	0.36*	0.22*	0.25*	0.24*	0.42*	0.26*	0.29*
D02	0.35*	0.38*	0.01	0.04	-0.02	0.13	0.03	0.05	-0.07	0.31*
D76	0.39*	0.41*	0.34*	0.33*	0.13	0.04	0.16	0.51*	0.27	0.18
D63	0.58*	0.59*	0.27*	0.24*	0.13	0.30*	0.35*	0.08	0.25*	0.04
D33	0.38*	0.41*	0.28	0.27	0.38*	0.11	0.33*	0.30	0.20	0.19
# of Correlations	45	45	50	50	50	50	50	50	50	50
# of Significant Correlations	37	38	40	35	26	21	26	30	26	17
Percent Significant	82%	84%	80%	70%	52%	42%	52%	60%	52%	34%
Median Correlation	0.35	0.37	0.34	0.31	0.22	0.21	0.24	0.27	0.24	0.19

Table 13

**Second Year Biomedical Grades Regressed with Pre-Dental GPA, Science GPA, and
DAT Scores**

School Code	Pre-Dental GPA	Science GPA	DAT Academic Scores	All DAT Scores	All Predictors
D22	0.04	0.03	0.17	0.21	0.24
D78	N/Av	N/Av	N/Av	N/Av	N/Av
D82	0.21*	0.27*	0.24*	0.25*	0.38*
D91	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.00	0.00	0.06	0.11*	0.11
D98	0.21*	0.23*	0.22*	0.30*	0.43*
D77	0.14*	0.18*	0.24*	0.26	0.40*
D06	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.10*	0.07*	0.17*	0.17	0.25
D13	N/Av	N/Av	N/Av	N/Av	N/Av
D55	0.09*	0.07*	0.14*	0.18*	0.22*
D47	0.10*	0.07*	0.33*	0.36*	0.39*
D72	N/Av	N/Av	N/Av	N/Av	N/Av
D88	0.26*	0.27*	0.15*	0.15	0.34*
D11	0.25*	0.24*	0.14*	0.14*	0.33*
D81	0.16*	0.17*	0.21*	0.22*	0.30*
D89	N/Av	N/Av	N/Av	N/Av	N/Av
D94	0.11*	0.10*	0.28*	0.28*	0.31*
D61	0.24*	0.15*	0.04	0.10	0.29*
D99	0.10*	0.09*	0.08	0.19*	0.24*
D56	N/Av	N/Av	N/Av	N/Av	N/Av
D93	N/Av	N/Av	N/Av	N/Av	N/Av
D86	0.10*	0.09*	0.11*	0.13*	0.18*
D41	0.29*	0.38*	0.12	0.14	0.54*
D10	0.24*	0.15*	0.11*	0.13*	0.33*
D23	0.10*	0.15*	0.16*	0.21*	0.27*
D12	0.09	0.09	0.59*	0.62*	0.63*
D57	0.08*	0.14*	0.05	0.13	0.26*
D39	0.03	0.12*	0.24*	0.26*	0.38*
D38	0.18*	0.34*	0.10	0.25	0.50*
D09	0.10*	0.13*	0.13*	0.15	0.30*
D95	N/Av	N/Av	N/Av	N/Av	N/Av
D65	N/Av	N/Av	N/Av	N/Av	N/Av
D75	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.07*	0.14*	0.17*	0.20*	0.28*
D87	0.03	0.02	0.17*	0.18	0.20
D52	0.02	0.01	0.31*	0.31*	0.34*
D70	0.05*	0.09*	0.08	0.11	0.19*
D31	0.09*	0.08*	0.24*	0.34*	0.38*
D49	0.05	0.04	0.08	0.10	0.14
D03	0.18*	0.18*	0.12	0.23*	0.35*
D71	0.08*	0.08*	0.08	0.09	0.16*
D26	0.15*	0.15*	0.19*	0.20*	0.30*
D83	N/Av	N/Av	N/Av	N/Av	N/Av
D90	0.31*	0.37*	0.19*	0.21	0.45*
D44	0.03	0.03	0.14	0.17	0.18
D53	0.29*	0.19*	0.18*	0.21*	0.38*
D24	0.19*	0.23*	0.10	0.12	0.30*
D68	0.10*	0.06	0.10	0.14	0.23
D84	0.08*	0.04	0.02	0.05	0.12
D36	0.01	0.02	0.14*	0.16*	0.17
D02	0.10*	0.13*	0.06	0.08	0.26
D76	0.08	0.10*	0.32*	0.35*	0.42*
D63	0.26*	0.26*	0.16*	0.18*	0.36*
D33	0.19*	0.20*	0.27*	0.29	0.36
# of Multiple R ² s	43	43	43	43	43
# of Significant Multiple R ² s	33	33	27	23	32
Percent Significant	77%	77%	63%	53%	74%
Median R-Square	0.10	0.13	0.15	0.18	0.30

Table 14

**Second Year Pre-Clinical Dental Technique Grades Regressed with Pre-Dental GPA,
Science GPA, and DAT Scores**

School Code	Pre-Dental GPA	Science GPA	DAT Academic Scores	All DAT Scores	All Predictors
D22	0.01	0.01	0.08	0.09	0.10
D78	N/Av	N/Av	N/Av	N/Av	N/Av
D82	0.11*	0.12*	0.05	0.09*	0.19*
D91	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.00	0.00	0.14*	0.14*	0.15*
D98	0.15*	0.21*	0.08	0.10	0.27*
D77	0.15*	0.22*	0.20	0.20	0.38*
D06	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.08*	0.10*	0.15	0.22*	0.32*
D13	N/Av	N/Av	N/Av	N/Av	N/Av
D55	0.02	0.04	0.10	0.18*	0.21*
D47	0.02	0.04	0.13	0.21*	0.24
D72	N/Av	N/Av	N/Av	N/Av	N/Av
D88	0.12*	0.13*	0.11	0.12	0.21
D11	0.14*	0.15*	0.14*	0.14*	0.22*
D81	0.18*	0.20*	0.20*	0.27*	0.39*
D89	N/Av	N/Av	N/Av	N/Av	N/Av
D94	0.18*	0.17*	0.16*	0.20*	0.30*
D61	0.14*	0.09*	0.10	0.14	0.26*
D99	0.09*	0.06*	0.09	0.12	0.18*
D56	N/Av	N/Av	N/Av	N/Av	N/Av
D93	N/Av	N/Av	N/Av	N/Av	N/Av
D86	0.14*	0.13*	0.07*	0.08	0.21*
D41	0.29*	0.42*	0.10	0.10	0.51*
D10	0.24*	0.18*	0.05	0.10	0.29*
D23	0.01	0.03	0.07	0.11	0.12
D12	0.03	0.01	0.51*	0.55*	0.57*
D57	0.11*	0.15*	0.08	0.11	0.27*
D39	0.01	0.03	0.06	0.10	0.17
D38	0.06	0.25*	0.10	0.17	0.39*
D09	0.07*	0.13*	0.12	0.18*	0.30*
D95	N/Av	N/Av	N/Av	N/Av	N/Av
D65	N/Av	N/Av	N/Av	N/Av	N/Av
D75	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.00	0.08*	0.05	0.22*	0.37*
D87	0.06	0.04	0.03	0.04	0.10
D52	0.05	0.04	0.31*	0.31*	0.37*
D70	0.00	0.00	0.01	0.08	0.08
D31	0.01	0.03	0.12	0.20	0.22
D49	0.08*	0.08*	0.08	0.16	0.28*
D03	0.09*	0.10*	0.05	0.27*	0.34*
D71	0.05*	0.05*	0.07	0.10	0.13
D26	0.01	0.01	0.04	0.24*	0.27*
D83	N/Av	N/Av	N/Av	N/Av	N/Av
D90	0.27*	0.37*	0.11	0.20	0.51*
D44	0.14*	0.17*	0.24*	0.28	0.35
D53	0.19*	0.19*	0.04	0.21*	0.36*
D24	0.18*	0.21*	0.14*	0.31*	0.43*
D68	0.05	0.01	0.04	0.08	0.17
D84	0.05*	0.06*	0.12*	0.23*	0.27*
D36	0.04	0.04	0.10	0.13	0.16
D02	0.05	0.09*	0.06	0.26*	0.36*
D76	0.23*	0.25*	0.34*	0.35*	0.53*
D63	0.35*	0.32*	0.09	0.11	0.39*
D33	0.11	0.13*	0.09	0.29	0.31
# of Multiple R ² s	43	43	43	43	43
# of Significant Multiple R ² s	25	29	11	19	30
Percent Significant	58%	67%	26%	44%	70%
Median R-Square	0.08	0.10	0.10	0.17	0.27

Table 15

**Second Year Grade Point Average Regressed with Pre-Dental GPA, Science GPA, and
and DAT Scores**

School Code	Pre-Dental GPA	Science GPA	DAT Academic Scores	All DAT Scores	All Predictors
D22	0.02	0.01	0.10	0.13	0.15
D78	N/Av	N/Av	N/Av	N/Av	N/Av
D82	0.21*	0.25*	0.20*	0.21*	0.34*
D91	N/Av	N/Av	N/Av	N/Av	N/Av
D19	N/Av	N/Av	N/Av	N/Av	N/Av
D97	0.00	0.00	0.13*	0.16*	0.16*
D98	0.17*	0.21*	0.15*	0.20*	0.33*
D77	0.16*	0.14*	0.20	0.26	0.35
D06	N/Av	N/Av	N/Av	N/Av	N/Av
D15	0.13*	0.09*	0.21*	0.21*	0.31*
D13	N/Av	N/Av	N/Av	N/Av	N/Av
D55	0.16*	0.14*	0.18*	0.19*	0.29*
D47	0.08*	0.08*	0.27*	0.30*	0.34*
D72	N/Av	N/Av	N/Av	N/Av	N/Av
D88	0.17*	0.18*	0.13	0.13	0.26*
D11	0.20*	0.21*	0.16*	0.16*	0.29*
D81	0.24*	0.26*	0.36*	0.40*	0.51*
D89	N/Av	N/Av	N/Av	N/Av	N/Av
D94	0.17*	0.15*	0.26*	0.28*	0.34*
D61	0.22*	0.14*	0.09	0.13	0.30*
D99	0.11*	0.08*	0.14*	0.21*	0.26*
D56	N/Av	N/Av	N/Av	N/Av	N/Av
D93	N/Av	N/Av	N/Av	N/Av	N/Av
D86	0.20*	0.17*	0.17*	0.19*	0.32*
D41	0.32*	0.43*	0.13	0.15	0.58*
D10	0.35*	0.25*	0.08	0.12*	0.39*
D23	0.08*	0.15*	0.22*	0.25*	0.29*
D12	0.14	0.11	0.66*	0.69*	0.73*
D57	0.12*	0.19*	0.09	0.14	0.31*
D39	0.04	0.13*	0.12	0.18	0.30*
D38	0.11*	0.32*	0.14	0.20	0.45*
D09	0.12*	0.17*	0.05	0.10	0.27*
D95	N/Av	N/Av	N/Av	N/Av	N/Av
D65	N/Av	N/Av	N/Av	N/Av	N/Av
D75	N/Av	N/Av	N/Av	N/Av	N/Av
D96	0.03	0.14*	0.13*	0.15	0.28*
D87	0.05	0.03	0.10	0.11	0.17
D52	0.04	0.03	0.35*	0.36*	0.40*
D70	0.06*	0.08*	0.10*	0.11	0.18*
D31	0.06*	0.07*	0.24*	0.32*	0.35*
D49	0.10*	0.10*	0.07	0.11	0.22
D03	0.12*	0.10*	0.05	0.25*	0.34*
D71	0.11*	0.11*	0.13*	0.14*	0.22*
D26	0.20*	0.18*	0.20*	0.23*	0.37*
D83	N/Av	N/Av	N/Av	N/Av	N/Av
D90	0.32*	0.41*	0.15	0.20	0.51*
D44	0.11*	0.11*	0.23	0.26	0.30
D53	0.33*	0.22*	0.20*	0.27*	0.46*
D24	0.22*	0.32*	0.25*	0.33*	0.50*
D68	0.09*	0.04	0.06	0.06	0.16
D84	0.14*	0.11*	0.08	0.18*	0.29*
D36	0.04	0.05*	0.20*	0.20*	0.23*
D02	0.12*	0.14*	0.03	0.15	0.29*
D76	0.18*	0.19*	0.35*	0.35*	0.50*
D63	0.33*	0.35*	0.20*	0.22*	0.47*
D33	0.16*	0.18*	0.14	0.28	0.33
# of Multiple R ² s	43	43	43	43	43
# of Significant Multiple R ² s	35	37	24	25	36
Percent Significant	81%	86%	56%	58%	84%
Median R-Square	0.13	0.14	0.15	0.20	0.31

Table 16**Number and Percentage of Schools with Significant Correlations of Second Year Biomedical Grades
with Undergraduate GPAs and DAT Scores**

	Pre- GPA	Science GPA	Academic Average	Total Science	Quanti- tative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability	AVG
2002-2003	70% (28)	73% (29)	73% (33)	67% (30)	29% (13)	62% (28)	56% (25)	51% (23)	47% (21)	16% (7)	54%
2003-2004	80% (36)	76% (34)	77% (36)	68% (32)	26% (12)	60% (28)	64% (30)	51% (24)	55% (26)	9% (4)	57%
2004-2005	70% (33)	66% (31)	75% (36)	65% (31)	35% (17)	58% (28)	52% (25)	38% (18)	50% (24)	6% (3)	52%
2005-2006	75% (33)	75% (33)	82% (40)	71% (35)	41% (20)	41% (20)	57% (28)	51% (25)	51% (25)	8% (4)	55%

Table 17

Number and Percentage of Schools with Significant Correlations of Second Year Pre-Clinical Dental Technique Grades with Undergraduate GPAs and DAT Scores

	Pre-GPA	Science GPA	Academic Average	Total Science	Quantitative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability	AVG
2002-2003	66% (27)	61% (25)	48% (22)	41% (19)	22% (10)	35% (16)	24% (11)	37% (17)	28% (13)	59% (27)	42%
2003-2004	76% (34)	71% (32)	38% (18)	28% (13)	17% (8)	30% (14)	17% (8)	30% (14)	19% (9)	51% (24)	38%
2004-2005	49% (23)	53% (25)	38% (18)	40% (19)	23% (11)	23% (11)	33% (16)	27% (13)	25% (12)	52% (25)	36%
2005-2006	60% (27)	64% (29)	54% (27)	40% (20)	40% (20)	18% (9)	22% (11)	32% (16)	26% (13)	44% (22)	40%

Table 18

Number and Percentage of Schools with Significant Correlations of Second Year Grade Point Average with Undergraduate GPAs and DAT Scores

	Pre-GPA	Science GPA	Academic Average	Total Science	Quantitative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability	AVG
2002-2003	76% (31)	80% (33)	73% (35)	65% (31)	35% (17)	60% (29)	44% (21)	60% (29)	46% (22)	29% (14)	57%
2003-2004	82% (37)	82% (37)	70% (33)	68% (32)	36% (17)	62% (29)	45% (21)	57% (27)	47% (22)	23% (11)	57%
2004-2005	72% (33)	76% (35)	60% (29)	63% (30)	35% (17)	52% (25)	54% (26)	38% (18)	48% (23)	33% (16)	53%
2005-2006	82% (37)	84% (38)	80% (40)	70% (35)	52% (26)	42% (21)	52% (26)	60% (30)	52% (26)	34% (17)	61%

Summary

Table 19 summarizes the median correlations and median R^2 s of all ten predictors with dental school grades.

As shown in Table 19, when all DAT scores and both undergraduate GPAs are included as predictors about 30% of the variance in first- and second-year biomedical grades, pre-clinical dental techniques grades, and grade point averages is explained. Pre-clinical dental technique grades are predicted less well than biomedical grades or grade point averages in both the first year and second years of dental school. Of the ten predictors, the perceptual ability score is the best single predictor of pre-clinical dental technique grades in the first- and second-year of dental school. Finally, the correlations involving first-year dental school grades tend to be larger than those involving second-year dental school grades. This may be because second-year dental school grades are not strictly parallel to their corresponding first-year dental school grades. However, the result is also to be expected because of the closer temporal proximity of the first year of dental school to students' undergraduate studies and to the time when students took the DAT.

Table 19

Median Correlation Summary

	Pre-Dental GPA	Science GPA	Academic Average	Total Science	Quanti- tative	Reading Comp.	Biology	General Chem.	Organic Chem.	Percep. Ability
First Year Biomedical Grades	0.38	0.41	0.38	0.40	0.21	0.22	0.36	0.28	0.29	0.16
First Year Pre-Clinical Dental Technique Grades	0.24	0.25	0.22	0.21	0.13	0.14	0.18	0.13	0.16	0.24
First Year Grade Point Average	0.39	0.40	0.36	0.37	0.21	0.23	0.35	0.25	0.28	0.19
Second Year Biomedical Grades	0.32	0.36	0.33	0.30	0.18	0.21	0.23	0.26	0.25	0.09
Second Year Pre-Clinical Dental Technique Grades	0.28	0.30	0.24	0.22	0.20	0.14	0.16	0.18	0.18	0.24
Second Year Grade Point Average	0.35	0.37	0.34	0.31	0.22	0.21	0.24	0.27	0.24	0.19

Median Multiple R-Square Summary

	Pre-Dental GPA	Science GPA	DAT Academic Scores	All DAT Scores	All Predic- tors
First Year Biomedical Grades	0.14	0.15	0.25	0.26	0.35
First Year Pre-Clinical Dental Technique Grades	0.06	0.06	0.11	0.19	0.25
First Year Grade Point Average	0.15	0.17	0.22	0.25	0.36
Second Year Biomedical Grades	0.10	0.13	0.15	0.18	0.30
Second Year Pre-Clinical Dental Technique Grades	0.08	0.10	0.10	0.17	0.27
Second Year Grade Point Average	0.13	0.14	0.15	0.20	0.31

Conclusion

Both undergraduate GPAs and DAT scores are all important measures in predicting first- and second-year dental-school performance. The results presented in this report demonstrate the strong validity of DAT scores for predicting first- and second-year dental school grades. When all DAT scores, pre-dental GPA, and science GPA are all used as predictors, they are more predictive of dental-school performance than are either DAT scores or pre-dental GPA or science GPA alone.

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