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An Inquiry Into the Validity of the Gregory Academic Interest Inventory

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Yocom — The Gregory Academic Interest Inventory

AN INQUIRY INTO THE VALIDITY OF THE GREGORY ACADEMIC INTEREST INVENTORY

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CHAPTER I

THE PROBLEM AND REVIEW OF THE LITERATURE

A test or series of tests designed to reveal the academic interests of college and pre-college students has long been a vital need in the field of interest testing. Successful tests of vocational interests are now available, but in the field of academic interest, the need remains. Academic interest and vocational interest are not necessarily synonymous in a given individual. Many students who are interested in becoming engineers, for example, are not interested in the related subjects they must master. On the other hand, a student interested in political phenomena and its implications may not necessarily be interested in a political career. Vocational interest tests, although useful, have not been designed to reveal the pattern of academic interests an individual may have.

The Gregory Academic Interest Inventory is purported by the author, Wilbur S. Gregory, to accomplish successfully this task of revealing the academic interests of the student. The author claims a high reliability for the test and indicates a need for further validating studies. At the present time, the validity of the inventory is regarded as questionable.

I. THE PROBLEM

Statement of the problem. It was the purpose of this study to make an inquiry into the general validity of the entire inventory, and to ascertain the apparent validity of the individual scales incorporated in the inventory by means of data gathered from 92 graduate students enrolled at the University of New Mexico.

Importance of the study. The Gregory Academic Interest Inventory is regarded today as a promising tool, subject to validation. Until positive validity measurements are established, the inventory cannot be widely employed.

This study does not attempt or claim to be a definite and final measurement of the inventory's validity. It has, however, revealed evidences of its validity. Further investigations involving larger groups of subjects and more refined analyses will ultimately have to be accomplished before the validity of the inventory can be ascertained. Preliminary investigations such as this one point out certain facts which can be studied separately and, if necessary, corrected before a larger, more extensive, and more time-consuming validity study is attempted.

II. DISCUSSION OF INTEREST

Much has been written about interest and vocational preference in the past twenty years. This method of vocational guidance has been subject to pointed criticisms by statisticians and statistically minded psychologists, and not without sufficient reason, for the reliability and validity of many of these tests and questionnaires leave much to be desired.

Present status. Super states that "interests have probably received more attention from vocational psychologists during the past generation than any other single type of human characteristic, including intelligence, aptitudes, and personality traits."[1] Interest has been studied by many psychologists who are not primarily concerned with interest per se, but are concerned with the role of interest as it applies to their own particular field of specialization. Consequently, when one attempts to view the entire concept of interest and the studies concerning it, the completed picture of interest today is somewhat unclear and confused.

Classification of interests. Super lists four major

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[1] Donald E. Super, Appraising Vocational Fitness (New York: Harper and Brothers, 1949), p. 376.

interpretations of the term interest, which are connected with as many different methods of obtaining data.[2] These interpretations have been classified as expressions, manifestations, tests, and inventories. A brief discussion of each classification follows.

Expressed interest is what Fryer called specific interest. It is the verbal expression of interest in an object, task, or occupation. In this type of interest, the subject concerned merely states his like, dislike, or indifference to a certain activity, occupation, or task in question. Studies by Strong,[3] Fryer,[4] Carter,[5] and others reveal that the importance of such expressed interests vary with the maturity of the individuals concerned (i.e., the more mature the individual, the more stable the expressed interest).

Manifest interest denotes the participation in an activity or task. In this approach it is assumed, for example, that the high-school youth who is active in

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[2] Loc. cit.

[3] Edward K. Strong, Jr., Vocational Interests of Men and Women (Palo Alto: Stanford University Press, 1943), Chap. 25.

[4] Douglas H. Fryer, Measurement of Interests (New York: Henry Holt and Company, 1931), pp. 302-303.

[5] Harold D. Carter, "The Development of Vocational Attitudes," Journal of Consulting Psychology, 1940, 4: 185-191.

forensics has speaking or possibly dramatic interests and abilities, and the musician who spends several nights a week working on model trains has definite interests in mechanics or engineering. This is not always the case, however. Thus, the high-school student mentioned above may be seeking fellowship or companionship, instead of pursuing his true interests. Environmental and financial limitations may also prevent an expressed interest from becoming a manifest interest. Parental influence may possibly prevent certain interests from becoming manifest. For these reasons manifest interests have not been used extensively as predictors of interests in most studies, although it is often taken into consideration by vocational counselors.

Tested interest refers to interests as measured by objective tests, as differentiated from inventories which are based on subjective self-estimates. Various methods have been employed to further this phase of interest measurement. The Michigan Vocabulary Profile Test, developed by Greene, attempts to measure interest through specialized vocabularies. At the present time Super and his associates at Clark University are investigating the possibility of developing an "attention or recent-memory" test of interest in vocational activities.[6] Several of these objective tests

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[6] Super, op. cit., p. 378.

were developed during the war for the armed forces. Civilian applications of these tests are now in progress, and it is possible that they might become a useful tool in the field of vocational guidance in the future.

Inventoried interests are perhaps the best-known measurements of interest. Inventories bear a superficial resemblance to some questionnaires for the study of expressed interests, for each item on both lists is responded to with an expression of preference. The important difference is that in the case of the inventory each possible response is given an experimentally determined weight, and these weights corresponding to answers given by the person completing the inventory are added in order to yield a score which presents a pattern of interests, not a single subjective estimate. Studies by Strong have shown these patterns to be relatively stable.[7]

This paper is primarily concerned with the last-mentioned classification of interests--inventoried interests. The discussion which follows will deal more or less extensively with the current interest and preference inventories. It is of course apparent that interests alone do not present sufficient evidence for any type of vocational guidance. Many other factors must be taken into

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[7] Strong, op. cit., pp. 370-371.

consideration before any method of vocational guidance becomes helpful: personality traits, the health of the individual, aptitude, intelligence, financial means, to mention a few. However, this paper is primarily concerned with the reliability and validity of interest inventories in general, and one in particular; since it would be an extremely difficult task to extensively study all the factors concerned with vocational guidance, this paper will be restricted to the concept of interest inventories. The other factors will be dealt with only insofar as they might affect the results of the Gregory Academic Interest Inventory.

Semantics and interest factors. Semantic confusion has been a hindrance to the unification of the field of interests. Interest factors have been given various titles by the different authors of inventories. Super, in an attempt to arrive at the basic interest factors, presents a summary of the interest factors from six interest inventories, and the logical synthesis of these factors.[8] The table is shown on the following page.

An examination of this table reveals the close similarity between the Kuder Preference Record and the synthesis suggested by Super. Such a synthesis as this, if

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[8] Super, op. cit., p. 381.

TABLE I

INTEREST FACTORS REVEALED BY SIX STUDIES AND THE LOGICAL SYNTHESIS

THURSTONE	ALLPORT-VERNON	LURIE	STRONG Unrotated	STRONG Rotated	KUDER	SYNTHESIS
Science	Theoretical	Theoretical	Science	Science	Scientific	Scientific
People	Social	Social	People	People	Social-Service	Social-Welfare
Language	--	--	Language	Language	Literary	Literary
--	--	--	Things vs. People	Things vs. People	Mechanical	Material
Business	Economic	Materialistic	Business	System	Clerical	System
	Political			Contact	Computational-Persuasive	Contact
--	Aesthetic	--	--	--	Artistic	Artistic
--	Religious	Religious	--	--	--	--
--	--	--	--	--	Musical	Musical

(Reprinted from Super, Appraising Vocational Fitness. New York: Harper Brothers, 1949.)

TABLE I

INTERNET REACTIONS REPORTED BY SIX STUDIES AND THEIR LOGICAL SYNTHESIS

subscribed to by vocational counselors and test authors, would indeed be a worthy contribution toward the unification of the field of vocational guidance. Blum and Balinsky regard this synthesis as a worthy contribution. They point out the fact that "the list is not so lengthy that it becomes unwieldy; ... (and) it is not too specific for successful vocational application."[9] This synthesis permits the counselor to discover the client's interest in a general vocational area; then more specific recommendations may be made.

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[9] Milton L. Blum and Benjamin Balinsky, Counseling and Psychology (New York: Prentice-Hall, Inc., 1951), p. 388.

CHAPTER II

DISCUSSION OF INTEREST INVENTORIES

In this section, three interest inventories will be discussed in some detail: The Vocational Interest Blank (Strong), the Kuder Preference Record, and the Occupational Interest Inventory (Lee and Thorpe). The first two mentioned inventories were chosen for discussion because they both have a relatively long history and they are probably regarded today as the most valid and reliable interest measures. The Lee and Thorpe inventory was chosen for discussion for two reasons: (1) the author is fairly well acquainted with this test and has used it on occasion; (2) though the inventory has been developed only recently and substantial validations are lacking, it represents a somewhat novel method of interest measurement, and it has incorporated different approaches to two aspects of interest which are also somewhat unique. In this sense, it represents what is being done, what will be done, and perhaps what should be done in an attempt to improve the present measuring devices.

I. THE STRONG VOCATIONAL INTEREST BLANK

This inventory has a relatively long history. The author first published the blank for men in 1927. In 1938

a revised blank was published which may be scored for the following 39 occupations: accountant, advertising man, architect, artist, author-journalist, aviator, banker, carpenter, certified public accountant, chemist, city school superintendent, coast guard, dentist, engineer, farmer, forest service, lawyer, life insurance salesman, mathematician, mathematics-science high school teacher, minister, musician, office worker, osteopath, personnel manager, physician, physicist, policeman, psychologist, president of a manufacturing concern, printer, production manager, public utility salesman, purchasing agent, real estate salesman, sales manager, social science high school teacher, Y.M.C.A. physical director, Y.M.C.A. secretary.

These occupations may also be arranged into six groups for which group scales are provided. These occupational groups bring together several occupations which have high correlations; this allows one to measure a pattern of interests, or an interest area, rather than a specific occupation. These occupational groups were especially adapted for use with younger people where a specific occupational interest is not yet likely to be stable. Strong, however, did not complete this program of devising occupational group scales, because he believes that "guidance should be based on high and low scores on all the scales,

and not merely upon the single highest score."[10] A more accurate appraisal may be made by the experienced counselor when secondary as well as low scores are considered.

Four non-occupational interests are also measured through this test: interest maturity, masculinity-femininity, occupational level, and studiousness. Interest-maturity (I-M) is a measure of the degree to which one has the interests of 25-year-old men as contrasted with 15-year-old boys. I-M scores correlate with the age and with the occupational interests of the individual (e.g., a future artist should have a lower I-M score than a future minister).

The masculinity-femininity scale (M-F) measures the interests of males and females. Artistic, literary, musical, and clerical interests are examples of feminine interests; while mechanical, scientific, physically strenuous activities are regarded as masculine. Interpretation of the M-F of clients enables the counselor to predict vocational success with greater accuracy.

Occupational level (OL) contrasts the interests of business and professional men with those in the unskilled trades. The importance of this feature in job-placement can readily be seen.

Studiousness measures the interest factors other

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[10] Strong, op. cit., Chaps. 12 and 13.

than intelligence which contribute to grades. Superior and inferior students as well as men in occupations are differentiated on this scale. This scale is probably less reliable than the other three. Further investigation is necessary before its true importance can be known.

The Strong Vocational Interest Blank for Men (revised) consists of 400 items divided into eight parts. The parts and what they contain are indicated below:[11]

PART	CONTAINS:
I.	100 occupations to be indicated by like (L), indifferent (I), or dislike (D).
II.	36 school subjects (e.g., algebra, English, art, etc.) to be indicated by L, I, or D.
III.	49 different amusements (golf, fishing, hunting, etc.); indicated by L, I, or D.
IV.	48 activities (interviewing clients, making a speech, etc.); indicated by L, I, or D.
V.	47 statements of peculiarities of people (progressive people, conservative people, etc.); indicated by L, I, or D.
VI.	Four sets of ten activities (e.g., develop new machine, operate new machine, sell new machine, etc.). The three most enjoyed are checked in the first of three columns; the three least enjoyed are checked in the third column; the remaining four are checked in column two.

[11] Edward K. Strong, Jr., Vocational Interest Blank for Men (Palo Alto: Stanford University Press, 1938).

PART	CONTAINS:
VII.	40 pairs of activities are compared and scored as to whether one activity (e.g., fireman--policeman) is liked better than, the same as, or less than the other activity.
VIII.	40 statements on rating of present abilities and characteristics (e.g., win friends easily, usually start activities of my group, etc.); indicated by Yes, ?, or No.

The test has been especially designed for adults. However, since Strong's studies indicate that changes of interest with age vary only slightly from 25 to 55 years of age and a little less slightly from 20 to 25 years, the test is considered to be a valid instrument for men twenty and over.[12] Because changes of interests are considerable between the ages of 15 and 20 years, Strong feels that the test should not be used with boys below 18 years of age, except by an experienced counselor.

Strong lists and discusses the following purposes of his test. No discussion of these aims seems necessary, since they are self-explanatory, and since their full development may be found in Strong's monograph.[13] These purposes are:

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[12] Strong, Vocational Interests, op. cit., Chaps. 12 and 13.

[13] Ibid., pp. 158-160.

(1) As an aid to vocational guidance.
(2) As an aid in educational guidance.
(3) As an admission requirement to professional schools.
(4) As an aid in the selection of employees.

The reliability coefficient of 36 of the 39 scales, using the "odd-even" technique, is .877. The individual coefficients fall below .80 on only one scale--certified public accountant (.727).

Burnham, using the test-retest technique for an interval of a week, found the reliability coefficients to be an average of .031 higher than those yielded by the "odd-even" method.[14]

Concerning the validity of the test, Blum and Balinsky point out that it is inherent in its standardization.[15] For each occupation, the 400 items receive weights that correspond statistically to the differences in responses from the standardization group.

Super states that the validity of the inventory "has been investigated by relating the scores of its scales to those of other tests, to grades in school and college, to completion of training, to earning in sales work, to ratings of success in various types of work, to persistence in an occupation, to differences between occupational

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[14] Paul S. Burnham, "Stability of Interests," School and Society, 55: 332-335, March 21, 1942.

[15] Blum and Balinsky, op. cit., p. 274.

(1) [illegible]

(2) [illegible]

(3) [illegible]

(4) [illegible]

(5) [illegible]

(6) [illegible]

(7) [illegible]

groups, and to job satisfaction."[16] As this suggests, an extensive amount of validation data has been collected on this test. Validity studies will be dealt with more extensively in the next chapter. The validity of the Strong, however, is probably more substantiated through experimentation than any other single interest inventory.

II. THE KUDER PREFERENCE RECORD

This test has been in wide usage since its publication in 1939. Like Strong's, it is a group test with no time limit. In this test a special pin is provided to pierce a hole next to two statements of each grouping of three statements. The statement liked most is pierced in the first column of a three-column answer sheet; the one liked least is pierced in the third column opposite the question. An example of the groupings and the types of statements is as follows:[17]

		(most)		(least)
P.	Visit an art gallery.....	o	p	o
Q.	Browse in a library.....	o	q	o
R.	Visit a museum.....	o	r	o
S.	Collect autographs.....	o	s	o
T.	Collect coins.....	o	t	o
U.	Collect butterflies.....	o	u	o

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[16] Super, op. cit., p. 421.

[17] G. Frederick Kuder, The Kuder Preference Record (Chicago: Science Research Associates, 1942).

Nine general vocational areas are tested on the Kuder: mechanical, computational, scientific, persuasive, artistic, literary, musical, social service, and clerical.

The scoring system counts two of the three choices. The manual for the test gives the following illustration:[18]

"(1) Build Bird houses.
(2) Write articles about birds.
(3) Draw sketches of birds.

"Analysis of this item revealed that a preference for the first activity to the second is positively correlated with the mechanical scale. It was also found that preferring ... (1) to ... (3) is positively correlated with the mechanical scale. Including both of these choices on the mechanical scale means that the entire item should be scored to obtain the following results:

1. A score of 2 should be obtained if the first activity is preferred to both of the other activities.

2. A score of 1 should be obtained if the first activity is preferred to one but not both of the other activities.

3. A score of 0 should be obtained if the first activity is preferred to neither of the activities."

The scores for each area are tallied and converted to percentile scores. A percentile score of 75 or better is considered significant. When more than one area exceeds the 75th percentile, these areas may be combined. Kuder offers many occupations in his manual which fit all areas and combinations of areas.[19]

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[18] G. Frederick Kuder, Revised Manual for the Kuder Preference Record (Chicago: Science Research Associates, 1946).

[19] Loc. cit.

The Kuder Preference Record is designed for use with high-school and college students. The one test is applicable to both males and females, but separate norms have been established for each group.

The reliability of the Kuder Preference Record is good. For eighth-grade students, reliability coefficients range from .84 to .96; for senior boys (N = 125), .87 to .93; for senior girls (the same number), .80 to .93; for 300 employed men, .88 to .95. One study, using the retest method for 47 graduate students yielded reliability coefficients ranging from .93 to .98.[20]

Such outstanding reliability coefficients as these are still regarded as questionable--but on different grounds. Studies by Paterson[21] and Bordin[22] and others indicate that the item transparency of the Kuder Preference Record definitely enables the subject to fake his scores. (This, of course, is the current weakness of almost all of the inventories, including the Strong; but most investigators believe the Kuder to be more subject to conscious or

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[20] Arthur E. Traxler, "Note on the Reliability of the Revised Kuder Preference Record," Journal of Applied Psychology, 27: 510-511, December, 1943.

[21] Donald G. Paterson, "Vocational Interest Inventories in Selection," Occupations, 25: 152-153, December, 1946.

[22] Edward S. Bordin, "Relative Correspondence of Professed Interests to Kuder and Strong Interest Test Scores," The American Psychologist, 1947, 2: 293 (abstract).

unconscious faking than the Strong). Thus, the high reliability coefficients may be due to item transparency and the stability of self-concepts. Until further research reveals the true nature of these reliability coefficients, it is probably safest to quote Super concerning them; he states that "whatever it is the Kuder measures, it measures it reliably."[23]

From 1940 to 1947, a total of 24 validity studies showing the relationship between the Kuder scores and other variables have been made. This shows that there is a need for more evidence concerning the validity of this popular and promising tool.

III. THE OCCUPATIONAL INTEREST INVENTORY

The Lee-Thorpe Inventory has been available for a relatively short time; consequently, few studies concerning it have appeared in the professional journals.

The inventory is divided into two parts. Part I consists of 130 pairs of statements concerning occupations. In this section, the client draws a circle around the number of the statement he prefers. Part II consists of 30 groups of three statements concerning occupations. This section measures the level of interests, which is basically similar to

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[23] Super, op. cit., p. 452.

Strong's Occupational Level (OL). An example of the paired questions is as follows:

B. Graft and prune trees or plants.
K. Design ready-made suits, dresses, or hats.

B. Develop better methods of producing and marketing farm crops.
D. Plan advertising campaigns, and develop new ideas for selling goods.

Six general fields are scored on this inventory. Each field is sub-divided into five or six more specific fields of interest. The fields and sub-fields, as indicated in the inventory, are as follows:[24]

FIELD	SUB-FIELDS CONTAINED
Personal-Social:	Domestic service, personal service, social service, teaching, law and law enforcement, health and medical service.
Natural:	Farming and ranching, raising and caring for animals, gardening and greenhouse care, fish, game, and domestic fowl, lumbering and forestry.
Mechanical:	Maintenance, machine operation, repairing, construction work, designing.
Business:	Clerical, shipping and distribution, bookkeeping and accounting, selling and buying, training and supervision, management and control.

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[24] Edward A. Lee and Louis P. Thorpe, The Occupational Interest Inventory - Advanced, Form A (Los Angeles: California Test Bureau, 1946), p. 2.

FIELD	SUB-FIELDS CONTAINED
The Arts:	Art crafts, painting and drawing, decorating and landscaping, drama and radio, literary activities, musical performance.
The Sciences:	Laboratory routine, mineral-petroleum production problems, applied chemistry, chemical research, biological research, scientific.

As will be noted, 36 separate but related occupations can be measured on this inventory. This compares quite favorably with the number of occupations measured by the Strong (39). However, Strong's inventory contains 400 items, while this one contains 240. One wonders if a valid measure of a subject's interest can be ascertained in so many fields by this limited number of questions. The author noticed on scoring some of these tests that the highest possible interest in some of the specific fields may be obtained by answering as few as four or five questions "correctly". For example, by properly answering four questions, one may obtain the highest possible ratings capable of being received on this inventory on seven of the 36 occupational fields listed. Admittedly, the short length of the test enables the counselor to administer and score it in a relatively short time, but one should be wary of simplifying a test to the extent that the complete interest patterns are not revealed.

The reliability coefficients of the Lee-Thorpe scales vary from .71 to .93. The norms are based on one thousand twelfth-grade students and are said to be applicable to any high-school grade and to adults--a fact which seems questionable in view of Strong's[25] and Carter's[26] studies concerning changes of interests with age.

The claims for validity set forth by the manual are based on the internal criteria of the test (e.g., source of items, design of items, balance of activities sampled). No external validation data is mentioned in the manual. Landgren has, however, reported a substantial relationship between appropriate Lee-Thorpe and Kuder scores.[27]

It should be emphasized that the Lee-Thorpe Inventory is at the present time in an experimental stage. Much research needs to be done before the importance and the significance of the inventory may be realized.

IV. RELIABILITY AND VALIDITY OF INTEREST MEASURES

Since the success and importance of any measuring

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[25] Edward K. Strong, Jr., Change of Interests with Age (Palo Alto: Stanford University Press, 1931), 235 pp.

[26] Carter, loc. cit.

[27] Henry C. Landgren, "A Study of Certain Aspects of the Lee-Thorpe Occupational Interest Inventory," Journal of Educational Psychology, 38: 358-362, October, 1947.

device is subject to the reliability and the validity of that device, and since the inventory with which this problem was concerned is not above reproach along these lines, it seems advisable to present a brief discussion concerned with the current methods of obtaining these measures. The studies discussed here will be some of those which have been used on the Strong, the Kuder, the Lee-Thorpe Inventory, or the Gregory Academic Interest Inventory.

Methods of obtaining reliability. One of the two usual procedures for obtaining reliability coefficients is the test-retest method. In this method, a group of subjects are initially given the inventory, and--after a specified length of time--they are retested, using the same inventory. The two resulting scores are then compared and correlations of the different scores are computed, as well as the general, or average correlation. All of the inventories thus far discussed, as well as the Gregory Inventory, have used this method of obtaining reliability coefficients.

Using the second, or "odd-even" method for comparative purposes, the test is divided into two parts; one part containing the odd-numbered statements, and the second part containing the even numbers. These two parts are then compared in the identical manner that the test-retest scores are compared.

The "odd-even" method actually determines the internal consistency of the test statements. In this manner, the comparative strengths of the questions can be ascertained. If all of the compared statements are measuring the same vocational patterns and revealing the same (or similar) scores on these patterns, the internal reliability of the test is not in question.

Methods of obtaining validity. Most of the validity studies discussed below come from certain studies made by Strong and his associates.

Validity and intelligence tests: Tests of intelligence have been correlated with Strong's scales in eight studies summarized by Strong.[28] A low but significant correlation between intelligence and scientific interests was found. Strong concludes, however, that occupational interest scales measure traits which are not primarily associated with intelligence.

Validity and comparison with other interest tests: Triggs compared the Strong Vocational Interest Blank with the Kuder Preference Record and produced some interesting results.[29] Table II shows the correlations found between

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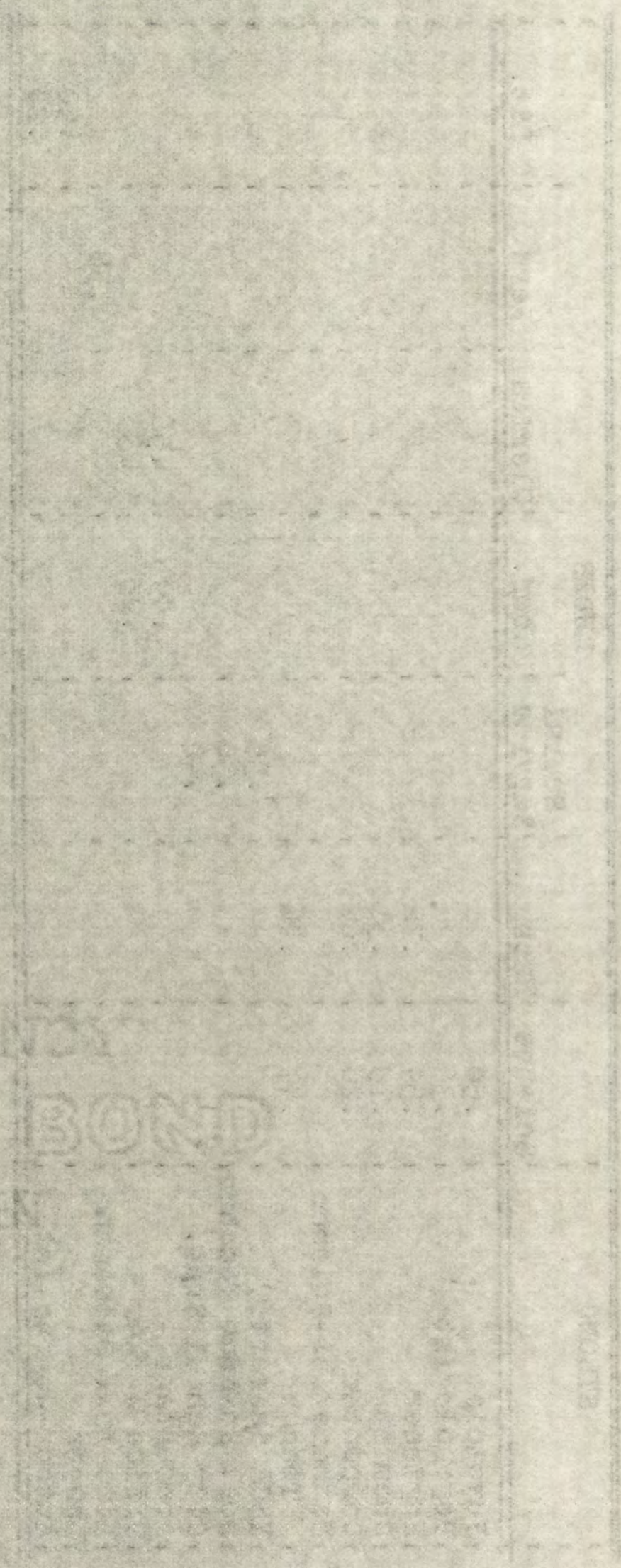
[28] Strong, Vocational Interests, op. cit., pp. 333-335.

[29] Frances O. Triggs, "A Further Comparison of Interest Measurement by the Kuder Preference Record and the Strong Vocational Interest Blank for Women," Journal of Educational Research, 37: 538-544, March, 1944.

TABLE II

CORRELATIONS BETWEEN KUDER AND STRONG SCALES

STRONG	KUDER						
	Science	Mechan.	Social Service	Comp.	Clerical	Pers.	Lit.
Physician	.50						
Psychologist	.36						
Engineer	.54	.72					
Chemist	.73	.51					
Carpenter	.26	.67					
Mathematics-Science Teacher	.47	.46					
YMCA Secretary			.35				
Soc. Science Teacher			.30				
City School Supt.			.42				
Accountant				.49	.58		
Office Worker				.25	.35		
Life Ins. Salesman						.58	
Lawyer							.50
Author-Journalist							.28


EFFICIENCY
ERASE BOND
NAG CONTENT

appropriate scales on the two inventories.

The relationships are similar to what one would expect, but they are so low that it would not be possible to use one test as a substitute for the other. Ideally, both inventories should be used in order to have a more complete understanding of a client's interests.

Validity and job-satisfaction: Strong's main attempt to validate his test was concerned with job-satisfaction and continuance in an occupation.[30] Strong attempted to establish two points: (1) those satisfied in an occupation may be differentiated on the inventory from those dissatisfied with an occupation; and (2) young people who obtain scores comparable with the satisfied group will enter that occupation in a far greater degree than those who do not obtain such scores.

Two follow-up studies were made by Strong and his associates: one five-year follow-up on 287 senior men from Stanford University, and one ten-year follow-up on the same group of men. In the beginning, the senior men were given the Vocational Interest Blank along with a questionnaire regarding their occupational plans. Five years later, 223 of these same men repeated the original study, and five years later 197 of the same men responded likewise.

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[30] Strong, Vocational Interests, op. cit., pp. 386 ff.

Briefly, the results of the first study (i.e., the five-year study) showed that 48 per cent of the seniors had not changed their occupational choice, nine per cent had made a slight change, 22 per cent made a decided change, and 21 per cent changed from "don't know" to a specific choice. The data from the ten-year follow-up yielded similar results.[31]

The specific validity and reliability studies which have been made on the Gregory Inventory will be discussed in the next chapter. The more important reliability and validity methods and techniques have been mentioned here in order that one may compare these methods and results with the methods and results thus far performed on the Gregory.

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[31] Ibid., p. 392.

CHAPTER III

THE GREGORY ACADEMIC INTEREST INVENTORY

This inventory was first published in 1946 after eight years of research and investigation. Most of the work was carried on at the University of Nebraska and its various colleges and departments.

I. SIGNIFICANCE OF INVENTORY

This inventory is significant in that it is the first one of its kind to devote itself entirely to the measurement of purely academic interests. The test has been designed to be used either by itself (in cases where occupational interests are definite) or in conjunction with vocational interest inventories.

II. PURPOSE OF INVENTORY

According to the manual published with the inventory, the purpose of the Gregory Academic Interest Inventory is "to provide a means of objectively measuring and comparing students' interests in various departmental curricula of colleges and universities in the United States."[32] For guidance purposes, the author lists four ways in which this

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[32] Wilbur S. Gregory, The Gregory Academic Interest Inventory Manual (Beverly Hills: Sheridan Supply Co., 1946), p. 1.

test may be useful: (1) in aiding students in the formulation of occupational plans, (2) in aiding students in the formulation of educational plans in the selection of "major" and "minor" fields of specialization, (3) in aiding students in the selection of "electives", and (4) in aiding counselors to evaluate interest as a factor in the failures of capable students and to analyze other problem cases.

The Gregory and occupational planning. As an aid to occupational selection, the Academic Interest Inventory reveals the academic interests of the student. From this data, the counselor is able to recommend various occupations to the student who in turn may choose the one which holds the most interest for him. By using the inventory, the counselor is not only able to recognize the major interests of his clients, but he is also able to see interest patterns which are essential to certain vocations. As an example, Gregory states that "the profile of scores on the Academic Interest Inventory not only measures interest in professional engineering curricula, such as civil and mechanical engineering, but also indicates the student's degree of interest in mathematics, physics, chemistry, and other courses which are required as part of the pre-professional course study for engineers."[33]

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[33] Loc. cit.

Ideally, the Academic Interest Inventory should in many cases be used in conjunction with an occupational interest inventory (e.g., the Strong, Kuder, etc.), to be certain that the client has academic interests which are consistent with his occupational interests. As an example, many students appear to (and do) have a genuine interest in a certain occupational field, but they do not have sufficient interest in the related subjects and "theory" courses which are required to become successful academically in that field. The converse may likewise be true: a student may have certain academic interests, but different occupational interests. Gregory cites examples for both of these types of discrepancy. As an example of the first type, Gregory states that he has "worked with pre-medical students whose scores were high on the scale for physicians on occupational interest inventories, but whose interests in some of the required pre-medical courses, such as chemistry and physics, were so low that they could not apply themselves to those courses sufficiently to attain grades that were high enough to be acceptable to medical colleges; consequently, a change in occupational plans was necessary."[34] As an example of the second type of discrepancy, Gregory relates that "a student may be interested in studying social sciences, such

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[34] Loc. cit.

as sociology, but not interested in social work as a career."[35] For these reasons, the use of both academic and vocational interest inventories is preferable in many cases.

The Gregory and selection of "majors" and "minors". The Gregory has its most obvious and valid utility here. The inventory can help the student to discover his major field in college, or it can help the student to select his "minor" or secondary department of interest.

The Gregory and the selection of elective courses. The obvious utility of the inventory is apparent here also. The inventory helps the student to pick the elective courses which are of more interest to him.

The Gregory and counseling aid. In this respect, the Academic Interest Inventory may be of value in ascertaining the role interests play in attaining superior grades. Failures by superior students may be due to a real lack of interest and consequently a lack of proper motivation. The converse may also be true, although the author fails to mention this fact. It seems quite probable that a person with just "average" abilities makes superior grades in certain subjects because he is highly interested in those

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[35] Loc. cit.

subjects. Further research undoubtedly will clarify the role interest plays in attaining good grades.

III. DEVELOPMENT OF SCALES

The construction of the Academic Interest Inventory began in 1938 at the University of Nebraska. At least one staff member from each department of the several colleges prepared a list of topics studied and activities performed in courses in each department. The author of the inventory edited this data and reduced the list to 900 items. This experimental form (Form A) was administered to the freshman class at the University of Nebraska, and to "approximately 5,000 juniors and seniors in a number of colleges and universities throughout the country."[36] The exact number and the locations of these institutions was not mentioned.

Scoring weights were derived by contrasting the answers of the junior-senior groups (classified according to major fields) to each of the items with the answers of the freshmen. On the basis of these weights, the test was reduced to its present form--300 items. The inventory in this form was given to the freshmen at the University of Nebraska in 1941. Their answers and scores were also used in a further analysis of the inventory.

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[36] Loc. cit.

The scales. The present inventory measures the student's interests in 28 general fields of study. The author is currently working to develop new scales. Notable categories which are missing include accounting, economics, physiology, anthropology, and philosophy. Other scales would be much more useful if they were broken down, or if means were available to break down certain scales into more specific areas. Scales such as chemistry, biological sciences, business administration, speech and dramatic arts, etc. would be much more useful if one could look within the scale and see if one or possibly two specific fields of interest were available to the student. For example, the counselor may discover by looking in the scale that the student rating "high" on the Biological Sciences Scale is far more interested in bacteriology than any other biological science. Not only would this be revealing, but it would also enable the student to plan his career earlier and thus receive more training in his specific interest area. This might enable the student with a B.A. or a B.S. degree to obtain a better position in his chosen occupation. It would certainly be advantageous to the future graduate student. Perhaps more graduate students would come to universities with the knowledge that they know what they want to do.

The following outline contains a brief description of

the scales and the criterion groups which were used in weighting the scores of the inventory.[37]

SCALE	CRITERION GROUP AND DESCRIPTION
1. Agriculture	Men in colleges of agriculture majoring in general agriculture, horticulture, agronomy, soil and game conservation, poultry industry, etc.
2. Architecture	Architecture majors in both liberal arts and engineering colleges.
3. Biological Sciences	Majors in botany, zoology, and bacteriology.
4. Business Administration	Majors in colleges of business administration specializing in its various areas.
5. Chemistry	Majors in chemical engineering. Weights were also derived for a criterion group of majors in liberal-arts colleges. The two were so similar, the author thought it useless to publish two scoring keys.
6. Commercial Arts	Primarily women specializing in typing, shorthand, business and office machine operation, etc.
7. Elementary Education	Primarily women preparing to teach grade school and kindergarten.
8. Secondary Education	Students qualifying for secondary teaching certificates. Scale measures interests in teaching methods, principles of education, educational psychology, etc.
9. Civil Engineering	Men majoring in civil engineering in several engineering colleges.

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[37] Ibid., p. 2-3.

SCALE		CRITERION GROUP AND DESCRIPTION
10.	Electrical Engineering	Men majoring in electrical engineering from several colleges of engineering.
11.	Mechanical Engineering	Men majoring in mechanical engineering in several engineering colleges.
12.	Public Service Engineering	Men majoring in Public Service engineering mainly at Purdue University. Due to the curricula involved (e.g., languages, social sciences, etc.) it correlates less highly with the other engineering scales, but more highly with liberal-arts courses than do the other engineering scales.
13.	English	Students majoring in English from several liberal-arts colleges.
14.	Fine Arts	Students in several liberal-arts colleges majoring in art and specializing in such courses as oil painting, water coloring, design, theory, etc.
15.	Geology	Primarily men majoring in geology in several liberal-arts colleges.
16.	History	Students from several liberal-arts colleges majoring in history.
17.	Home Economics	Women studying in home-economics departments specializing in its various areas.
18.	Journalism	Students majoring in journalism in journalism schools and liberal-arts colleges.
19.	Languages	Students majoring in Latin, Greek, French, German, Spanish and other languages.
20.	Mathematics	Students majoring in Mathematics in liberal-arts colleges.

SCALE		CRITERION GROUP AND DESCRIPTION
21.	Military Science	Men who were taking advanced R.O.T.C. training for army commissions.
22.	Music	Music majors specializing in various instrumental, vocal, and theoretical phases of music, as well as public-school music.
23.	Physical Education	Students, primarily from teacher's colleges, majoring in physical education.
24.	Physics	Students from liberal-arts colleges majoring in physics.
25.	Psychology	Liberal-arts students majoring in psychology.
26.	Religion	Primarily men from Protestant church colleges majoring in the Bible, religion, or religious education.
27.	Sociology	Liberal-arts students majoring in sociology.
28.	Speech and Dramatic Arts	Students specializing in speech and dramatic arts in liberal-arts and teacher's colleges.

IV. RELIABILITY AND VALIDITY OF THE SCALES

The only reliability study mentioned in the manual was computed in 1942 on 100 freshmen at the University of Nebraska. The inventory was first given to 1500 students in November, 1941. One hundred of this group were picked at random and given the test in March, 1942. The Pearson coefficients of correlation between the original and retest scores on each scale were as follows (all scores are

positive): Agriculture, .81; Architecture, .83; Biological sciences, .81; Business Administration, .79; Chemistry, .92; Commercial Arts, .87; Elementary Education, .75; Secondary Education, .69; Civil Engineering, .80; Electrical Engineering, .84; Mechanical Engineering, .87; Public Service Engineering, .80; English, .89; Fine Arts, .83; Geology, .80; History, .81; Home Economics, .88; Journalism, .80; Languages, .85; Mathematics, .81; Military Science, .74; Music, .81; Physical Education, .67; Physics, .90; Psychology, .75; Religion, .72; Sociology, .80; Speech, .83.

In summary we find that 21 of the scales have reliability coefficients of .80 or above (of which two are above .90), five of the scales .70 and above, and two scales from .67 to .70. The average reliability of the inventory is approximately .81; the range is from .67 to .92. When compared to the reliability of the Strong (.88, with one scale below .80), the Kuder (.80 to .93), and the Lee and Thorpe (.71 to .93), we find that the reliability of the Gregory is more similar to that of the Lee and Thorpe than the other two. Since the Lee and Thorpe is also a new inventory, this suggests that perhaps further investigation and research is necessary to bring the general and specific reliability coefficients more in line with the inventories it should be used with.

Under the heading of "Reliability and Validity of the Scales",[38] Gregory presents some excellent figures which at first appear to be concerned with the validity of the scales.[39] However, it will be noted (as Gregory states) that these figures are concerned with the validity of the scoring method now used. On the original scoring method, the weights which were developed ranged from plus four to minus four. This would mean that 16 stencils would need to have been used in scoring a single inventory for one scale; or 348 stencils for the entire inventory. As Gregory states, machine scoring would have been very "cumbersome", and hand scoring not feasible. Thus, a simpler scoring method was perfected in which weights of plus one and minus one were employed. Weights which had a plus three or four on the original scoring method were given weights of plus one; weights of minus three or minus four were weighted as minus one. Now the inventory may be scored by merely using four stencils to a scale (two stencils--a plus one and a minus one--for each side of the answer sheet), or 112 stencils for the entire inventory. Therefore, the coefficients of validity presented by Gregory were computed by correlating

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[38] Ibid., p. 3.

[39] Wilbur S. Gregory, "Data Regarding the Reliability and the Validity of the Academic Interest Inventory," Education and Psychological Measurement, 6: 375-390, June, 1946.

scores derived by the original scoring method with those derived by the shorter method. These coefficients range from .71 to .95; the average being approximately .87. One may then conclude that the shorter scoring method compares very favorably with the longer method.

No other validity or reliability studies are reported in the manual, although the author states that additional evidence of such will be reported in the professional journals.

One other of Gregory's studies concerned with the reliability and the validity of the Academic Interest Inventory appears in the professional journals.[40] This study was published in 1946, although the actual investigation occurred in late 1941.

Another study of test-retest reliability is discussed in this article. 99 students were used in computing the reliability coefficients. The period of time between the two tests varied from two to three months. The reliability coefficients presented in this article are significantly higher than those discussed in the manual: 14 scales yielded reliability coefficients of .90 or higher; 13 of the remaining scales yielded r's of .816 to .897; and only one scale yielded an r below .80 (Business Administration, .691). The author therefore cautions the free use of this scale, although it is not low enough to justify its discarding.

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[40] Ibid.

The mean r is .89, which compares favorably with other interest inventories.

On the above study which yielded significantly higher r's, Gregory stated that scaled scores were used. The type of scores used in the reliability figures presented in the manual is not mentioned. Since there is such a discrepancy between the two studies, however, one is almost forced to assume that raw scores were employed in the investigation presented in the manual, and weighted scores (i.e., scaled scores) in the other. This would naturally account for the differences between them. If such is the case, the scores presented in the manual are far more accurate than those published in the professional journal.

Gregory found evidence of validity by comparing the scores of students enrolled in different colleges.[41] In this study, the author assumed that matriculation in a particular college in the university (e.g., teacher's college, college of business administration, engineering college, arts and sciences, and agricultural college) could be used as a "group" criterion of validity. Gregory points out the obvious limitations and weaknesses of this criterion: (1) some students enroll in a college when they have no real occupational goals or plans; (2) some students enroll in a college and discover they are not interested in the curricula

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[41] Ibid., pp. 379-386.

involved; and (3) the interests of students in a college are by no means homogeneous. Therefore, Gregory states that "such weaknesses in this criterion of validity would tend to lower the evidence of validity. Consequently, what evidence for validity of the scales can be discovered by using this criterion may be regarded as significant."[42]

With this assumption in mind, the means of the scores of freshmen men and women in each of five of the colleges of the University of Nebraska (Agriculture, Arts and Sciences, Business Administration, Engineering, and Teacher's colleges) were computed. Due to possible sex differences, the males and females in the colleges were computed separately. A portion of this table presented by Gregory in this article (table of men students only) may be seen on page 41.

The table is read as follows: taking the agricultural scale (scale 1), the highest mean score is found to be in the Agricultural college. This therefore presents evidence for the validity of that scale.

The author, by means of this data presented, found evidence for the validity of the following scales: Agriculture, Architecture, Biological Sciences, Business Administration, Chemistry, Commercial Arts, Elementary Education, Secondary Education, Civil Engineering, Electrical Engineering, Mechanical Engineering, Geology,

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[42] Ibid., pp. 388-390.

TABLE III

MEAN SCALED SCORES OF COLLEGE GROUPS ON GREGORY'S ACADEMIC INTEREST INVENTORY

(Note: For each case in reading, the highest mean score on each scale has been underlined.)

	AGRIC.	A. & S.	B. A.	ENGIN.	T. C.
Agriculture	6.7	4.25	4.6	5.45	4.2
Architecture	5.25	4.2	5.2	5.65	4.55
Biol. Sciences	5.5	6.05	4.35	5.2	5.05
Bus. Adminis.	5.4	4.05	7.0	4.3	5.75
Chemistry	6.05	5.9	5.9	6.1	5.05
Commer. Arts*	2.15	2.3	3.05	1.05	3.1
Elem. Education*	1.55	3.9	2.0	.2	3.1
Sec. Education*	3.15	4.3	4.05	2.9	2.6
Civil Engineering	5.15	4.05	4.85	6.0	4.2
Elec. Engineering	5.35	4.3	4.4	6.45	3.95
Mech. Engineering	5.3	4.2	4.3	6.25	3.9
Pub. Serv. "	4.95	4.35	5.15	4.8	4.4
English	3.6	4.6	5.5	4.8	4.4
Fine Arts	3.8	4.05	4.2	3.45	4.15
Geology	6.35	5.8	5.55	6.8	5.1
History	4.6	4.8	5.2	3.2	5.3
Home Economics*	1.8	2.3	1.95	1.0	2.7
Journalism	3.85	4.1	5.05	3.2	4.7
Languages*	3.7	4.6	4.1	2.7	4.9
Mathematics	5.99	5.45	5.4	6.05	5.5
Military Science	5.5	3.7	5.05	5.6	4.3
Music*	4.25	4.4	4.5	3.1	5.7
Physical Education	5.5	5.15	5.4	3.8	6.05
Physics	6.1	5.7	5.5	7.35	5.5
Psychology	4.0	4.9	4.25	3.25	5.05
Religion	5.65	5.6	5.1	5.05	5.3
Sociology	3.6	4.35	4.35	2.85	4.75
Speech & Dr. Arts*	3.7	4.2	4.35	2.6	4.9

* Indicates that the evidence for the validity of that scale is found in the women's mean scores, not shown here. For further reference, see Gregory, W. S., Data Regarding the Reliability and Validity of the Academic Interest Inventory, Educational and Psychological Measurements, Volume 6, 1946, pp. 375-396.

Home Economics, Languages, Mathematics, Physical Education, Physics, and Psychology. It should be noted, too, that sex differences also give evidence for the test's validity.[43] Mean scores for the women were significantly higher than those for the men on the following scales: Elementary Education, Home Economics, Commercial Arts, Languages, Speech and Dramatic Arts, Sociology, English, and Secondary Education; while the mean scores for the men were significantly higher than those of the women on the Electrical Engineering, Mechanical Engineering, Civil Engineering, Agriculture, Military Science, Physics, Geology, and Chemistry scales.

V. ADMINISTRATION AND SCORING OF THE INVENTORY

Administration. The inventory may be administered in groups or individually. There is no time limit, though most subjects can finish it well within an hour. The instructions are given on the front of the inventory booklet, and when given in groups, it is best to read them aloud, and properly emphasize certain points. Honesty in self-interests should be emphasized when giving the test. The test booklet is included on the next page. Regular I.B.M. scoring sheets

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[43] Gregory, The Gregory Academic Interest Inventory Manual, op. cit., p. 4.

are used on which the students mark their answers.

Scoring the inventory. The inventory may be scored by hand or by I.B.M. scoring machine. The scoring stencils for hand and machine scoring are not interchangeable. Since both machine and hand scoring methods are essentially the same, only the hand-scoring method will be explained here. The inventories used in this study were all hand scored.

For hand scoring, four stencils must be used to score each scale--a "plus" stencil and a "minus" stencil for part A and the same for part B. The number of "plus" and "minus" sub-scores for a given scale are tallied, and the sum of all four sub-scores are computed. This reveals the raw score of the scale. The same procedure is followed for all 28 scales.

Interpretation of the scores. Tentative norms have been published for the test, and they are incorporated on the profile sheet. A mimeographed copy of the profile sheet and the norms is found on page 45. Gregory suggests, however, that it might be desirable for each individual school to develop its own norms. The norms change the raw scores into scaled scores. The raw scores in and of themselves mean absolutely nothing. Three examples have been marked on the profile sheet on the next page to clarify the

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: SAMPLE COPY N: ___ SEX: _____

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean		SCALED SCORES: 1	2	3	4	5	6	7	8	9
-2	-2	1. Commer. Arts	-19 down -18	-15 -14	-10 -9	-4 -3	≠2 ≠3	≠6	≠9 ≠7	≠14 ≠10	≠15 up
-2	-2	2. Bus. Ad.	-39 down -38	-30 -29	-22 -21	-15 -14	-8 -7	-1	≠8 0	≠17 ≠9	≠18 up
≠16	≠16	3. Pub. Ser. Eng.	-121 down -120	-78 -77	-53 -52	-31 -30	-17 -16	-3 -2	≠10 ≠11	≠19	≠20 up
		4. Mech. Eng.	-38 down -37	-29 -28	-19 -18	0 ≠1	≠17 ≠18	≠30 ≠31	≠40 ≠41	≠44	≠45 up
		5. Elec. Eng.	-28 down -27	-22 -21	-16 -15	-1 0	≠15 ≠16	≠24 ≠25	≠33 ≠34	≠39	≠40 up
		6. Civil Eng.	-28 down -27	-20 -19	-15 -14	-7 -6	≠4 ≠5	≠11 ≠12	≠16 ≠17	≠23	≠24 up
		7. Arch.	-62 down -61	-49 -48	-39 -38	-29 -28	-20 -19	-13 -12	-7 -6	≠3	≠4 up
		8. Geol.	-62 down -61	-49 -48	-38 -37	-22 -21	-8 -7	≠8 ≠9	≠20 ≠21	≠29	≠30 up
		9. Chem.	-30 down -29	-27 -26	-20 -19	-11 -10	≠4 ≠5	≠20 ≠21	≠29 ≠30	≠33	≠34 up
		10. Physics	-77 down -76	-65 -64	-53 -52	-34 -33	-16 -15	≠2 ≠3	≠15 ≠16	≠24	≠25 up
		11. Math.	-103 down -102	-76 -75	-54 -53	-38 -37	-21 -20	-9 -8	0 ≠1	≠10	≠11 up
		12. Biol. Sci.	-29 down -28	-25 -24	-20 -19	-15 -14	-6 -5	≠6 ≠7	≠13 ≠14	≠22	≠23 up
		13. Agri.	-32 down -31	-24 -23	-17 -16	-8 -7	≠3 ≠4	≠17 ≠18	≠27 ≠28	≠40	≠41 up
		14. Home Ec.	-15 down -14	-9 -8	-5 -4	-1 0	≠5 ≠6	≠9 ≠10	≠13 ≠14	≠17	≠18 up
		15. Fine Arts	-31 down -30	-24 -23	-20 -19	-16 -15	-11 -10	-7 -6	≠4 ≠5	≠16	≠17 up
		16. Engl.	-42 down -41	-31 -30	-24 -23	-12 -11	≠2 ≠3	≠16 ≠17	≠28 ≠29	≠39	≠40 up
		17. Hist.	-48 down -47	-32 -31	-24 -23	-16 -15	-5 -4	≠5 ≠6	≠13 ≠14	≠20	≠21 up
		18. Journ.	-23 down -22	-19 -18	-16 -15	-13 -12	-8 -7	-1 0	≠5 ≠6	≠9	≠10 up
		19. Lang.	-52 down -51	-41 -40	-33 -32	-25 -24	-15 -14	-5 -4	≠3 ≠4	≠13	≠14 up
		20. Speech	-86 down -85	-65 -64	-52 -51	-40 -39	-23 -22	-11 -10	0 ≠1	≠14	≠15 up
		21. Soc.	-33 down -32	-26 -25	-20 -19	-13 -12	-4 -3	≠4 ≠5	≠9 ≠10	≠16	≠17 up
		22. Psych.	-24 down -23	-20 -19	-16 -15	-10 -9	-3 -2	≠5 ≠6	≠13 ≠14	≠19	≠20 up
		23. Sec. Ed.	-15 down -14	-11 -10	-9 -8	-7 -6	-2 -1	≠7 ≠8	≠12 ≠13	≠16	≠17 up
		24. Elem. Ed.	-25 down -24	-18 -17	-13 -12	-6 -5	≠3 ≠4	≠9	≠15	≠22	≠23
		25. Phys. Ed.	-40 down -39	-34 -33	-25 -24	-15 -14	-6 -5	-1 0	≠6 ≠7	≠12	≠13 up
		26. Milit. Sci.	-11 down -10	-6 -5	0 ≠1	≠5 ≠6	≠10 ≠11	≠15 ≠16	≠18 ≠19	≠21	≠22 up
		27. Music	-28 down -27	-21 -20	-17 -16	-13 -12	-8 -7	-4 -3	≠2 ≠3	≠9	≠10 up
		28. Relig.	-140 down -139	-110 -109	-84 -83	-60 -59	-40 -39	-16 -15	-1 0	≠17	≠18 up

procedure used to change raw scores into scaled scores. The raw score given for course one (Commercial Arts) is -2. Looking horizontally across the profile sheet, we find that a raw score of -2 for the Commercial Arts Scale has a scaled score of five. The appropriate mark is then entered in this box. The Business Administration Scale also has a raw score of -2, but this same score gives it a scaled score of six. It should be remembered then that raw scores are in no way comparable to each other; only the scaled scores have specific meanings which are comparable.

Each scaled-score interval represents one-half standard deviation of an assumed normal distribution. The table of page 47 shows the relationship between scaled scores and percentage frequencies. Scales scores of seven, eight, and nine represent the highest interests; four, five, and six represent average interests; and one, two, and three represent lowest interests. It should be emphasized, however, that these designations are somewhat arbitrary, and Gregory states that the counselor should attempt to interpret the profile as a total pattern rather than in terms of individual scores. The relationship of one scale to another is equally as important as the highest scale or scales.

Some of the norms which have been established are based only on men, and some only on women. The norms found in Agriculture, Architecture, Civil Engineering, Electrical

TABLE IV

RELATIONSHIP BETWEEN SCALED SCORES
AND PERCENTAGE FREQUENCIES

SCALED SCORES	PER CENT OF DISTRIBUTION	CUMULATED PERCENTAGES	
9	Highest 53%	100	
8	7	97	Upper 22%
7	12	90	
6	18	78	
5	Middle 20	60	Middle 56%
4	18	40	
3	12	22	
2	7	10	Lowest 22%
1	Lowest 3	3	

Engineering, Mechanical Engineering, Public Service Engineering, and Military Science are based only on men; while Commercial Arts, Elementary Education, Home Economics, and Music norms are based only on women. The reason for this is evident: those subjects which have all male norms are those subjects which are almost exclusively studied by men; the same reason (with the possible exception of Music) applies to the female norms.

The importance of such an inventory as this when validated can be realized. A considerable gap in the test batteries of vocational and educational counselors will be at least partially filled, and they shall be able to guide certain people with more assurance than has previously been possible.

CHAPTER IV

PRESENT STUDY

I. STATEMENT OF THE PROBLEM

It was the purpose of this study to make an inquiry into the general validity of the entire Academic Interest Inventory, and to ascertain the apparent validity of the individual scales incorporated in the inventory by means of data gathered from 92 graduate students at the University of New Mexico.

II. POPULATION OF STUDY

Over 200 graduate students received a copy of the Gregory Academic Interest Inventory and a questionnaire regarding their present status, future plans, and satisfaction with their major. Wherever possible, personal contacts were employed. Students enrolled in the following departments or colleges were contacted and asked to distribute this material to the graduates they knew: Anthropology, Biological Sciences, Psychology, Education, History, Geology, Engineering, and Art. In certain departments and colleges, members of the faculty also cooperated in distributing this material--notably faculty members in Chemistry, Music, History, Psychology, and Sociology.

One hundred and four completed copies were returned. Of these, 92 were employed in this study. The remainder were discarded for one of three reasons: (1) lack of a sufficient number of students in that major who returned the inventories. Only two mathematics majors, one speech major, three English majors, and two Spanish majors returned completed inventories. (2) It was felt that two graduates who returned inventories were of such an age that their results might tend to bias one of the groups. Both were Education majors, and since two such individuals might conceivably introduce an unintentional distortion, their inventories were not scored. (3) Two graduate students neglected to put their names, ages, and majors on either the inventory or the questionnaire; consequently, their results had to be omitted.

The age range of the graduates employed in this study was from 20 to 35 years of age; the mean and median age both being approximately 26 years. The age of 35 years was used as the maximum age because the ages of the students involved in this study ran continuously from 21 to 35 years. No inventories were turned in by students whose ages were 36 to 44. Since this break in the age spread was the first one, and since it was a decided break, 36 years was thought to be the natural maximum age.

Of the 92 subjects, 29 were females. The number of

females per major was as follows: Education, 7; Art, 7; Anthropology, 6; Biological Sciences, 2; History, 2; Psychology, 2; Sociology, 1; Chemistry, 1; and Music, 1. Three groups contained all male students: Business Administration, Geology, and Engineering.

III. PROCEDURE

After the inventories were returned, they were scored and classified according to major fields. The questionnaires were checked to see that they were properly filled out; if not, they were either filled out or returned to the student to be completed. A sample of this questionnaire is found on the next page. The questionnaires were used as a further validity check on the Academic Interest Inventory. Certain statements and other pertinent data found in the questionnaires were checked against the results found in the inventories in an attempt to discover whether any relationships existed between the two.

The classification of the students according to major fields resulted in the following twelve major groupings: Anthropology, Art, Biological Sciences, Chemistry, Engineering, Geology, History, Business Administration, Education, Psychology, Music, and Sociology. A profile of each major group, using both the mean and median scores, was drawn. These may be seen in the appendix.

TABLE V

SAMPLE OF THE QUESTIONNAIRE DISTRIBUTED
WITH THE GREGORY ACADEMIC INTEREST INVENTORY

To the Graduate Student:

I shall appreciate your cooperation in the completion of the following tasks:

1. Fill out the questionnaire below completely.
2. Follow the directions given at the beginning of the enclosed inventory and complete it accordingly.
3. Enclose this inventory along with the questionnaire in the stamped, self-addressed envelope which will be provided, or return them to the individual who gave them to you.

All material will be kept confidential. Your cooperation is gratefully acknowledged. If you wish to obtain your results on this inventory, please contact me at the Men's Dormitory.

NAME:_____ AGE:_____ SEX:_____

MAJOR:_____ MINOR:_____ MARRIED?_____ VETERAN?_____

GRADE POINT AVERAGE IN MAJOR:_____ IN MINOR:_____
(INCLUDE GRADUATE AND UNDERGRADUATE WORK.)

OCCUPATION OF FATHER:_____
OCCUPATION OF MOTHER:_____

WHAT ARE YOUR PLANS ON COMPLETION OF YOUR FORMAL SCHOOLING?
(BE AS SPECIFIC AS POSSIBLE)

CHOICE ONE:_____
CHOICE TWO:_____
OTHER CHOICES:_____

DO YOU HAVE OTHER STRONG INTERESTS OUTSIDE YOUR CHOSEN FIELD WHICH MIGHT BE VOCATIONALLY SATISFACTORY, BUT BECAUSE OF FINANCIAL REASONS, ETC., YOU HAVE AT LEAST TEMPORARILY DISREGARDED THEM? IF SO, LIST THESE INTERESTS:_____
_____

HOW WOULD YOU RATE YOUR PERSONAL SATISFACTION WITH YOUR CHOICE OF MAJOR SUBJECT? CIRCLE THE TERMS BELOW WHICH BEST DESCRIBE YOUR INTERESTS:

STRONGLY DISSAT.		MILDLY DISSAT.	NEITHER SAT. NOR DISSAT.	MILDLY SATIS.		STRONGLY SATISFIED WITH CHOICE

IF YOU HAD THE OPPORTUNITY TO CHOOSE YOUR MAJOR OVER AGAIN, WHICH SUBJECT WOULD YOU CHOOSE?_____

A scattergraph of all 12 fields was also made for comparative purposes. This graph may be found in the envelope on the back cover, and it will be discussed more extensively later in this chapter. It will be noticed on this graph that on most of the scaled scores there is a spread. These major fields are placed in their proper rank order on the graph. Take for example, the Commercial Arts Scale (Scale 1 on the abscissa). Vertically following its line up to the Scaled Score or four (found on the ordinate), four major groups are found in this area: Business Administration, Education, Sociology, and Psychology. These major groups are placed in rank order on the scale. All of the four received a Scaled Score of four, but Business Administration had the highest raw score to bring this Scaled Score; Education the next-to-the-highest score, and so on. This rank order of placement has been used on all 28 scales. It should be emphasized that these rankings have not been interpolated; they are merely drawn in rank order and the groups spaced an equal distance apart on the graph. It is felt that such placements make the graph easier to read and interpret.

IV. RESULTS

Table VI, pages 54 and 55, shows the higher scores on the Academic Interest Inventory obtained by the graduate

TABLE VI

THE HIGHER SCORES ON THE ACADEMIC INTEREST INVENTORY
OBTAINED BY 92 GRADUATE STUDENTS
GROUPED IN THEIR RESPECTIVE DEPARTMENTS

GRADUATE DEPARTMENT OR COLLEGE	COURSES SHOWING MEAN OR MEDIAN SCORES OF 7, 8, OR 9.	MEAN SCALED SCORE	MEDIAN SCALED SCORE
Business Administration (N = 5)	Business Administration	8	9
	Pub. Serv. Engineering	7	7
	History	7	7
Art (N = 8)	Fine Arts	8	8
	Architecture	7	7
	English	7	6
	Languages	6	7
	Speech	6	7
History (N = 7)	History	9	9
	English	7	6
	Business Administration	7	6
Geology (N = 10)	Geology	7	7
	Chemistry	6	7
Education (N = 9)	Sociology	8	8
	Psychology	8	8
	Secondary Education	8	8
	English	7	7
	History	7	8
	Languages	7	6
	Physical Education	7	6
	Speech	6	7
	Religion	6	7
Sociology (N = 5)	Sociology	8	9
	Psychology	8	8
	Business Administration	7	7
	Fine Arts	7	7
	English	7	6
	History	7	6
	Journalism	7	7
	Languages	7	6
	Speech	7	7
	Architecture	6	8

TABLE VI (continued)

THE HIGHER SCORES ON THE ACADEMIC INTEREST INVENTORY
OBTAINED BY 92 GRADUATE STUDENTS
GROUPED IN THEIR RESPECTIVE DEPARTMENTS

GRADUATE DEPARTMENT OR COLLEGE	COURSES SHOWING MEAN OR MEDIAN SCORES OF 7, 8, OR 9.	MEAN SCALED SCORE	MEDIAN SCALED SCORE
Engineering (N = 6)	Mathematics	6	7
Chemistry (N = 8)	Chemistry	6	7
	Geology	6	7
	Biological Sciences	6	7
	Agriculture	6	7
Psychology (N = 9)	Psychology	8	8
	Sociology	8	8
	Speech	7	7
	Languages	7	7
	Fine Arts	6	7
Music (N = 5)	Music	8	8
	Fine Arts	7	7
	English	7	7
	History	7	7
	Languages	7	8
	Speech	7	8
	Physical Education	6	7
Biological Sciences (N = 13)	Biological Sciences	8	8
	Chemistry	6	7
	Physics	6	7
	Mathematics	6	7
Anthropology (N = 7)	Sociology	8	8
	Psychology	7	7
	Speech	7	7
	Languages	7	8
	History	7	7
	English	7	7
	Fine Arts	7	7

| | | |

students grouped in their respective departments. Looking at this table, it is seen that the students in the following departments or colleges obtained the highest rating in their own field only: Business Administration, Fine Arts, History, Geology, Music, and Biological Sciences. The following groups obtained equally high scores in other related departments: Education, Sociology, Chemistry, Psychology, and Anthropology. One group, Engineering, did not receive a scaled score of seven or above on either the mean or median computations.

Due to the small size of the individual groups, it is of course apparent that no definite statements regarding the results may be made. It is, however, revealing to look at the data in this manner and see the degree of interests the students had according to this inventory. It is hoped that those scales which apparently are not measuring interests satisfactorily will be further investigated by others interested in this inventory.

Analysis of departmental groups. A brief summary of the groups might better clarify the apparent measuring abilities of many of the scales. In the discussion of these graduate groupings, it is advisable to refer to Table VI since the following summary is based on this data.

Business Administration: The highest score obtained

by Business Administration students is on the scale measuring Business Administration. Due to the curricula involved in the studying of Public Service Engineering (e.g., languages, government, social sciences, etc.) the apparent high interest in this scale by Business Administration students is reasonable.

Gregory states that these two scales correlate to some degree. The relatively high interest in History does not seem to be incongruous when one considers that several Business Administration courses are related to history (e.g., marketing, economics, government, etc.).

Art: Both Fine Arts and Architecture are relatively high according to the computations of the mean and median. Fairly high interest scores on the English, languages, and Speech Scales were also obtained by this group. These scores, however, probably have no effect on the validity of the scale in question.

History: History majors received the top rating of nine on the History Scale--the only group to do so in their major. This could quite conceivably be due to the fact that history is structurally a more homogeneous study than most other fields. In Biological Sciences, for example, one may specialize in fields which are quite dissimilar (e.g., Physiology, Bacteriology, Botany, etc.), and a student's interest in the field of Biology could easily be restricted

to a single phase. It is true that there is some specialization in history, but the differences between these interests are less pronounced. The other two scales under history (i.e., English and Business Administration) do not detract from the evident validity of the History Scale.

Geology: The fairly high interest ratings in Geology and Chemistry by Geology majors is somewhat indicative of the scale's validity. The rating of seven may be due to the specialized interests on the part of the students concerned (e.g., Petrology, Paleontology, Minerology, etc.).

Education: At first glance, this scale seems to be of doubtful value. However, a study of the questionnaires indicates that the scales involved in this group appear to be measuring correctly. The following points have been summarized from the questionnaires of the Education majors:

1. Of the nine students in this group, five are majoring in Elementary Education---four of whom desire to teach in elementary schools. This would mean that an interest in the following scales would probably be beneficial: Elementary Education, English, History, Languages (in this area), Music, Physical Education, Psychology, and Speech. From the table, it is seen that all but one of the above-mentioned scales appear as high on the Education majors' profile.

2. The minors of these students are also varied:

two History minors, one Psychology minor, one English minor, and two "composite" minors are listed on the questionnaires.

3. All individuals were either "satisfied" or "strongly satisfied" with their choice of majors, and only two would alter their majors, if the opportunity were given.

Therefore, it is felt that the interests obtained by the Education majors are valid measurements. There is some evidence, however, which detracts from the validity of the Elementary Education Scale. One would certainly expect the Elementary Education Scale to show interests which are above average. Such is not the case, nor do the five Elementary Education majors by themselves bring this scale up to an average of seven, eight, or nine. Since the responses on the questionnaires and the other interests measured by the inventory seem to be fairly appropriate, the tentative conclusion here drawn is that the Elementary Education Scale is not functioning correctly. Further evidence for this conclusion will be given when the scales are discussed separately.

Sociology: The small number of majors in this group and the large number of interests make it difficult to see the implications of this scale. The high interests in Sociology and Psychology are to be expected since the two are related in several respects. The high rank in journalism is explained by the fact that according to the

questionnaires three of the five individuals are interested in journalism or writing.

It is interesting to note that three of the majors are "strongly satisfied" with their choice of a major, one is "mildly satisfied", and one is "neither satisfied or dissatisfied." The other vocational interests listed by this group include research, writing, journalism, news reporting, article writing, anthropological field studies, sharp shooting, printing, operating machine tools, assistant football coaching, and music.

Sociology is a heterogeneous field of study. Anything which has social implications either has been or may be legitimately studied by the experts in this field. Sociology "borrows" extensively from many fields and incorporates them under one heading. Many people seem to regard Sociology as a good basic course to take in college as a background for several occupations. It is then not surprising that one finds varied interests when measuring future sociologists.

According to these results, Sociology is the highest measured scale and, if one accepts the facts concerning the heterogeneity of the field, this scale appears to be a valid measuring instrument. However, one can readily see the difficulty in using this scale in educational guidance, because one could not tell with certainty which courses would

actually be best for the student.

Engineering: According to the results made by these Engineering graduates, the Engineering Scales are not functioning properly. Two of the six members of this group were majoring in Civil Engineering, and their average scores on this Scale gave them a rating of nine. The other four were all Electrical Engineering majors, but their rating was just high average on this scale. As the table relates, the only scale to reach seven on either the mean or the median scaled scores was the Mathematics Scale. Mathematics is of course essential to the field of engineering. However in the light of the results and the norms presented by Gregory, no evidence is established for the validity of the Engineering Scales. The questionnaires reveal no important evidence to support or further reduce the scales' validities.

Chemistry: None of the mean computations reveal a Scaled Score of seven or above, but four median scaled scores of seven are present. It is believed that possibly the median scores are more accurate in this case--particularly on the Chemistry Scale. The raw scores on seven of the eight inventories are all plus 13 or more, and they are grouped fairly close together. The one remaining raw score was minus 13; this score being 26 points lower than the next-lowest score. According to Garrett, the median should be used "when there are extreme measures which would affect the

mean disproportionately."[44] In this case, one then feels justified in assigning more significance to the median score.

Geology, Biological Sciences, and Agriculture also rate fairly high with this group. This further tends to validate the Chemistry Scale, particularly in view of the following facts:

(1) Geology and Chemistry tend to correlate with each other.
(2) Two of the eight graduates are specifically interested in biochemistry.
(3) In recent years, the importance of chemistry to the farmer and the argiculturalist has become increasingly evident; one would therefore expect an interest in "agricultural chemistry" by Chemistry students.

The profile chart of the Chemistry majors in the appendix also gives at least average interests in physics and mathematics, both of which are essential to the chemist. It is therefore believed that this group of graduate students gives evidence for the Chemistry Scale's validity.

Psychology: Evidence for this scale's validity is present in the data of this study. Psychology majors received a Scaled Score of eight on both the Psychology and the Sociology Scales, and scores of seven in Speech and Languages. The apparent high interest shown by psychology students in Fine Arts may be due to the sample of psychology

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[44] Henry E. Garrett, Statistics in Psychology and and Education (New York: Longmans, Greene, and Co., 1947), p. 45.

students obtained (i.e., the sample of psychology students obtained may have been more interested in Fine Arts than most psychology majors are).

Music: The relatively high ratings of the music majors on the following scales presents evidence for the Music Scale's validity: Music (8), Fine Arts (7), Languages (7 and 8), and Speech (7 and 8). It is interesting to note the high score made on the Physical Education Scale by the Music majors. It is unlikely, however, that this score in any way affects the validity of the scale in question.

Biological Sciences: Decided evidence for the validity of this scale is immediately noted. The high interest rating on the Biological Sciences Scale (8), and average or above average interests in Chemistry, Physics, and Mathematics present a logical interest pattern which is ideal for the Biological Science major.

Anthropology: Although there is no Anthropology Scale on this inventory, the high interest ratings made by the Anthropology majors is about what one would expect. Above-average interests in Sociology, Psychology, Languages, History, and Fine Arts would logically seem to make up a greater share of the interest pattern of the anthropologist. In a sense, this group would then tend to further validate the above-mentioned scales.

From this data, tentative evidence for the validity of the following scales has been presented: Business Administration, Art, History, Geology, Chemistry, Psychology, Music, Biological Sciences, and possibly Education and Sociology. Questionable scales include the Engineering scales (with the possible exception of Civil Engineering) and the Elementary Education Scale. Examination of the data reveals some evidence for the validity of the following scales: Architecture, English, Journalism, Languages, Mathematics, and Physics. Further evidence regarding the validity of the above-mentioned scales along with the rest of the scales is given below.

Analysis of individual scales. Further indications regarding the validity of the scales of the Gregory Academic Interest Inventory are revealed when the graph of the twelve groups is studied. When the collected data is studied in this manner, the discriminating as well as measuring value of many of the scales becomes apparent.

This study is primarily concerned with the positive indications of the Inventory's validity. Due to the small samples in the individual groups, it is of course unwise to make conclusive statements regarding the validity of this test, and one must again bear this fact in mind during the discussion which follows. The apparent measuring and discriminating abilities of the individual scales is summarized

below. Wherever feasible, certain scales will be discussed as a related group.

1. Commercial Arts: Since no criterion group was available for this scale and since the type of interest this scale measures is different from any of the other scales, no evidence for or against its validity can be definitely stated. It should be remembered, however, that the norms for this scale are based entirely on females. It is interesting to note that the theoretical and physical sciences (e.g., Engineering, Chemistry, and Geology) all made significantly lower scores than the social and personal sciences on this scale. Commercial Arts certainly belongs more to the social sciences than the theoretical, but since no group made a scaled score of more than four, the validity of this scale cannot be ascertained through this study.

2. Business Administration: The discriminating value of this scale appears to be quite good. Furthermore, the scale appears to be measuring what it was intended to. Business Administration majors rank the highest on this scale, social sciences follow, then the arts, and finally the physical and theoretical sciences--all of which present good evidence for the scale's validity.

3-6. The Engineering Scales: The discriminating values of these scales are somewhat questionable. No group received a scaled score of over six (although the

Engineering majors were the only group to obtain the scaled score of six), and all but three groups are between scaled scores of four and six. It is believed that more varied interests should be apparent on these scales. Engineering is a profession which is somewhat intrinsic, and it is unlikely that most of the groups incorporated in this study would have average interests in this field. One would also expect the engineering majors and possibly the Chemistry and Geology majors to be higher than they are. The reason for this apparent lack of interest may be because the inventory does not have the intrinsic appeal to the theoretical sciences as it does to the social sciences. The true measuring and discriminating values of these scales are questionable.

7. Architecture: The highest group on this scale (Art) would appear to be a logical one. The fact that all but one of the groups are located at the mean or above suggests the possibility that the norms for these graduates are not the same as the norms developed by Gregory. However, the scale in its present form seems to be discriminatory enough for its proper function in this inventory.

8. Geology: The discriminatory and measuring qualities of this scale seem to indicate its validity. The high interest score in Geology and the high averages in Chemistry, Engineering, and Biological Sciences tend to further substantiate this indication.

9. Chemistry: It will be remembered in the previous discussion regarding Chemistry majors that it was thought that the median score of seven was perhaps a better indication of the true interests of the Chemistry students. It is therefore believed that this scale is a valid one.

10. Physics: The high average rankings of the Engineering, Chemistry, Biological Science, and Geological students presents preliminary evidence for this scale's validity.

11. Mathematics: The interest pattern made by the interest groups indicate a general support for the validity of this scale, although one would expect Chemistry majors to have an interest in Mathematics which is at least equal to the interests of Biology and Geology majors.

Before continuing with this discussion of the individual scales, it seems advisable to point out certain constellations found in the total pattern of this graph. Scales three to 11 reveal interests which for the most part are constructed around the mean. With a few exceptions, the rest of the scales reveal a wider spread of interests, most of which are average or above.

It may also be noted that scales three to 11 are primarily concerned with the theoretical and physical sciences; the rest of the scales are more concerned with personal-social relations. The intrinsic quality of the

greater share of the research done in the theoretical-physical sciences, and the non-emotional atmosphere in which these investigations may be carried out, may be the cause of these interests centering around the mean. Most of the other scales, however, display varied interests.

Three reasons for the existence of these constellations are presented:

(1) Abstract terminology may be the reason for the high groupings on the English, Psychology, Sociology, etc. Scales; and the relatively low groupings on the theoretical-physical scales.
(2) The Inventory may not have the intrinsic appeal with the theoretical-physical students as it apparently does with the personal-social group.
(3) The interests of the theoretical-physical students as a group seem to be less pronounced throughout all the scales than the other groups mentioned.

There is no way of discovering with certainty if one or all three of the above statements, or even some not mentioned here, constitute the reason for the existence of these constellations on the graph. In the light of the Inventory questions, however, as well as the results, these statements seem to be reasonable.

12. Biological Sciences: This scale was discussed previously and its apparent validity established. The evidence as seen on the graph further substantiates this claim.

13. Agriculture: No revealing evidence regarding the validity of this scale is apparent. The low rating by Art

students is probably due to the realistic or modern emphasis which has attracted artists recently. This study, however, does not reveal the validity of the Agricultural Scale sufficiently enough to indicate its value.

14. Home Economics: No attempt was made to measure the validity of this scale because of the small number of women in this study and the lack of any home-economics majors.

15. Fine Arts: The range found on this scale indicates that it is discriminating. The high interest shown by the art students, the relatively high interests shown by the personal-social groups, and the low and low-average interests shown by the theoretical-physical students are what one should expect; therefore, the results suggest the scale is valid.

16. English: Again the segregation of the social and theoretical groups on this scale is indicative of the English Scale's validity. Those engaged in the personal-social occupational fields feel the need to more adequately and precisely express themselves than do the theoretical-physical scientists. This is also indicative of the general extroversial qualities found in those engaged in social occupations as opposed to the introverted qualities generally found in scientists.

17. History: It is noticed that all of the groups

obtained scores which were equivalent to or above the mean norm score. Most students are necessarily interested in the history of their major field of study as well as related fields. This fact may account for the apparent high interest in this field. It is seen, however, that the history majors scored significantly higher than the rest of the groups. It is therefore believed that this scale is measuring validly.

18. Journalism: There are certain inferences which may be made regarding this scale's validity. It will be remembered that several of the Sociology majors were interested in writing or journalism--more than any other group. This is significant in that they scored higher on this scale than any other group. The general order of interest made by the 12 groups is a further indication of the scale's validity.

19. Languages: With the exception of Engineering, all groups were at or above the mean on the Languages Scale. One possible explanation for this was discussed previously. One can also see why such groups as Anthropology, Music, and Education score high on this scale--particularly in this bilingual area.

20. Speech and Dramatic Arts: All groups scored low-average or above on this scale. Again it is seen that the more gregarious occupations scored significantly higher on this scale.

21. Sociology: As one would expect, the following groups scored highest on this scale: Sociology, Anthropology, Psychology, and Education. The rest of the scales range from low to high average; all of which suggests the validity of the scale.

22. Psychology: All of the scores on this scale are located at the mean or above. The apparent interest in psychology by all groups may be due to the large amount of publicity this field has received in the last decade. The scale is discriminatory, but the educational counselor should be certain that the professed interest in psychology is both real and relatively high. It is probable that new norms may have to be established for this scale due to the fact that most students are becoming "psychology-conscious."

23. Secondary Education: With the exception of the education majors, all of the groups obtained scaled scores of five or six. Education majors are, however, discriminated from the group and since most of the students in this study plan to teach, it is not surprising to find the interest in this scale at least average or above. The scale is apparently a valid one.

24. Elementary Education: It should be mentioned again that the norms for this scale are based exclusively on females. This explains the decided low interests of several of the groups. However, the fact that the education majors

did not score above six tends to throw some doubt as to the value of this scale regarding its discriminating and measuring abilities.

25. Physical Education: No definite statement regarding the validity of this scale can be made, due primarily to the lack of sufficient evidence. Education majors, however, did obtain significantly higher scores on this scale than did the other groups. This may tend to indicate the scale's validity.

26. Military Science: No true evidence regarding the validity of this study is available. It will be remembered that the norms for this scale are based on males only. Consequently, it is revealing to note that two of the three groups which were composed entirely of males (i.e., Engineering and Business Administration) scored higher on this scale than the other groups except history. However, the other group composed entirely of males (Geology) obtained a very low scaled score. The true significance of this scale is therefore uncertain.

27. Music: The discriminatory and measuring ability of this scale is evident. The music majors obtained significantly higher scores on this scale than the other groups. The distribution of the groups along the scale would further suggest the validity of the Music Scale.

28. Religion: The ability of this scale to measure

interest in religion seems questionable, even though no religious group was employed in this study. Of the 12 groups, eight obtained a scaled score of six; three a score of five; and one a score of four. It is likely that more of a spread than this would be obtained on a valid religion scale, and it is not likely that all of the groups found in the scaled score of six would have similar interests in religion.

A profile showing the mean scores of the entire group (i.e., all 12 groups incorporated into one large group whose N is 92) is seen on the next page. On might expect that such as assimilation of varied interests as these would result in an "average interest" profile; i.e., all of the scales would have scaled scores of four, five, or six, with the exception of certain scales which have single sex norms. The profile substantiates this expectation. Three of the scales fall below the scaled score of four: Commercial Arts, Home Economics, and Military Science. It will be remembered that the norms for the first two mentioned scales are based entirely on females, and the norms for the Military Science Scale are based entirely on males. This would seem to indicate that the subjects employed in this study were not biased toward or against any specific fields of interest.

V. CONCLUSIONS

From the discussion of the results, it is felt that

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: **ALL DEPARTMENTS** N: **92** SEX: **63 males, 29 females**

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean		SCALED SCORES: 1	2	3	4	5	6	7	8	9
		1. Commer.	-19	-15	-10	-4	≠2	≠6	≠9	≠14	≠15
-13		Arts	down	-18	-14	-9	-3	≠3	≠7	≠10	up
		2. Bus.	-39	-30	-22	-15	-8	-1	≠8	≠17	≠18
-11		Ad.	down	-38	-29	-21	-14	-7	0	≠9	up
		3. Pub.	-121	-78	-53	-31	-17	-3	≠10	≠19	≠20
-29		Ser. Eng.	down	-120	-77	-52	-30	-16	-2	≠11	up
		4. Mech.	-38	-29	-19	0	≠17	≠30	≠40	≠44	≠45
- 6		Eng.	down	-37	-28	-18	≠1	≠18	≠31	≠41	up
		5. Elec.	-28	-22	-16	-1	≠15	≠24	≠33	≠39	≠40
- 4		Eng.	down	-27	-21	-15	0	≠16	≠25	≠34	up
		6. Civil	-28	-20	-15	-7	≠4	≠11	≠16	≠23	≠24
- 6		Eng.	down	-27	-19	-14	-6	≠5	≠12	≠17	up
		7. Arch.	-62	-49	-39	-29	-20	-13	-7	≠3	≠4
-21			down	-61	-48	-38	-28	-19	-12	-6	up
		8. Geol.	-62	-49	-38	-22	-8	≠8	≠20	≠29	≠30
- 9			down	-61	-48	-37	-21	-7	≠9	≠21	up
		9. Chem.	-30	-27	-20	-11	≠4	≠20	≠29	≠33	≠34
≠ 4			down	-29	-26	-19	-10	≠5	≠21	≠30	up
		10. Phys-	-77	-65	-53	-34	-16	≠2	≠15	≠24	≠25
-23		ics	down	-76	-64	-52	-33	-15	≠3	≠16	up
		11. Math.	-103	-76	-54	-38	-21	-9	0	≠10	≠11
-26			down	-102	-75	-53	-37	-20	-8	≠1	up
		12. Biol.	-29	-25	-20	-15	-6	≠6	≠13	≠22	≠23
- 1		Sci.	down	-28	-24	-19	-14	-5	≠7	≠14	up
		13. Agri.	-32	-24	-17	-8	≠3	≠17	≠27	≠40	≠41
- 4			down	-31	-23	-16	-7	≠4	≠18	≠28	up
		14. Home	-15	-9	-5	-1	≠5	≠9	≠13	≠17	≠18
- 5		Ec.	down	-14	-8	-4	0	≠6	≠10	≠14	up
		15. Fine	-31	-24	-20	-16	-11	-7	≠4	≠16	≠17
- 9		Arts	down	-30	-23	-19	-15	-10	-6	≠5	up
		16. Engl.	-42	-31	-24	-12	≠2	≠16	≠28	≠39	≠40
≠ 8			down	-41	-30	-23	-11	≠3	≠17	≠29	up
		17. Hist.	-48	-32	-24	-16	-5	≠5	≠13	≠20	≠21
≠ 2			down	-47	-31	-23	-15	-4	≠6	≠14	up
		18. Journ.	-23	-19	-16	-13	-8	-1	≠5	≠9	≠10
- 8			down	-22	-18	-15	-12	-7	0	≠6	up
		19. Lang.	-52	-41	-33	-25	-15	-5	≠3	≠13	≠14
-10			down	-51	-40	-32	-24	-14	-4	≠4	up
		20. Speech	-86	-65	-52	-40	-23	-11	0	≠14	≠15
-20			down	-85	-64	-51	-39	-22	-10	≠1	up
		21. Soc.	-33	-26	-20	-13	-4	≠4	≠9	≠16	≠17
≠ 2			down	-32	-25	-19	-12	-3	≠5	≠10	up
		22. Psych.	-24	-20	-16	-10	-3	≠5	≠13	≠19	≠20
≠ 3			down	-23	-19	-15	-9	-2	≠6	≠14	up
		23. Sec.	-15	-11	-9	-7	-2	≠7	≠12	≠16	≠17
≠ 1		Ed.	down	-14	-10	-8	-6	-1	≠8	≠13	up
		24. Elem.	-25	-18	-13	-6	≠3	≠9	≠15	≠22	≠23
- 7		Ed.	down	-24	-17	-12	-5	≠4	≠10	≠16	up
		25. Phys.	-40	-34	-25	-15	-6	-1	≠6	≠12	≠13
-10		Ed.	down	-39	-33	-24	-14	-5	0	≠7	up
		26. Milit.	-11	-6	0	≠5	≠10	≠15	≠18	≠21	≠22
- 3		Sci.	down	-10	-5	≠1	≠6	≠11	≠16	≠19	up
		27. Music	-28	-21	-17	-13	-8	-4	≠2	≠9	≠10
-10			down	-27	-20	-16	-12	-7	-3	≠3	up
		28. Relig.	-140	-110	-84	-60	-40	-16	-1	≠17	≠18
-35			down	-139	-109	-83	-59	-39	-15	0	up

the following conclusions regarding the validity of the Gregory Academic Interest Inventory may be formulated:

(1) The following scales appear to be measuring and discriminating validly: Business Administration, Geology, Chemistry, Biological Sciences, Fine Arts, History, Sociology, Psychology, Secondary Education, and Music.

(2) The validity of the following scales was also revealed, although no major criterion groups were available for their measurement: Architecture, Physics, Mathematics, English, Journalism, Languages, and Speech and Dramatic Arts.

(3) No evidence for or against the validity of the following scales was ascertainable in this study: Commercial Arts, Agriculture, Home Economics, Physical Education, and possibly Military Science.

(4) Evidence was obtained through this study which threw some doubt as to the validity of the following scales: Public Service Engineering, Mechanical Engineering, Electrical Engineering, Elementary Education, Religion, and possibly Military Science.

CHAPTER V

SUMMARY

The Gregory Academic Interest Inventory measures the interests of college and pre-college students in the general curricula found in most colleges and universities. The need for such a measuring instrument has undoubtedly been realized by counselors for some time.

The ideal use of the Gregory Academic Interest Inventory would be with undergraduate students in conjunction with a good vocational interest inventory (e.g., the Strong, or the Kuder). When used in conjunction with other interest tests, the actual interest patterns of the students in most cases would be better realized.

This inventory was given to 92 graduate students of the University of New Mexico, 63 of whom were males, in the hope of ascertaining the apparent validity of most of the scales.

The instructions for taking the Gregory Academic Interest Inventory are clearly and simply stated; the time it takes to complete it is not prohibitive to its use. The rather complex and time-consuming scoring method is, however, a serious draw-back to the wide employment of this test, especially in the smaller colleges and universities that do not have machine-scoring methods available. For

small groups, however, hand-scoring is not out of the question.

This study has revealed evidences which are thought to be indications of the validity of the Gregory Academic Interest Inventory. Because of the small size of the groups employed in this study, the results must of necessity be interpreted cautiously. Of the 28 scales, there appear to be only six which are of questionable value, and three of these six scales are concerned with engineering. Due to the small sample of the engineering graduates obtained for this study it is certainly possible that their scores are not representative mean scores which could be obtained from a large sample, but are rather the result of bias in a small sample. It is suggested, however, that further studies regarding the validity of these questionable scales should be conducted before any large validity study is attempted.

The Gregory Academic Interest Inventory should serve a highly useful purpose once it has undergone a more extensive validation. This study tends to reveal the fact that this inventory is for the most part a promising one; one on which further studies would well be worth the time spent. The results of this study indicate that the Gregory Academic Interest Inventory may some day be a valid and useful tool in the educational and vocational guidance fields.

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APPENDIX

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: ANTHROPOLOGY N: 7 SEX: 6 males 1 female

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean	SCALED SCORES:	1	2	3	4	5	6	7	8	9
-12	-14	1. Commer. Arts	-19 down	-15 -18	-10 -14	-4 -9	≠2 -3	≠6 ≠3	≠9 ≠7	≠14 ≠10	≠15 up
-12	-10	2. Bus. Ad.	-39 down	-30 -38	-22 -29	-15 -21	-8 -14	-1 -7	≠8 0	≠17 ≠9	≠18 up
-27	-30	3. Pub. Ser. Eng.	-121 down	-78 -120	-53 -77	-31 -52	-17 -30	-3 -16	≠10 -2	≠19 ≠11	≠20 up
-23	-11	4. Mech. Eng.	-38 down	-29 -37	-19 -28X	0 -18	≠17 ≠1	≠30 ≠18	≠40 ≠31	≠44 ≠41	≠45 up
-22	-12	5. Elec. Eng.	-28 down	-22 -27X	-16 -21	-1 -15	≠15 0	≠24 ≠16	≠33 ≠25	≠39 ≠34	≠40 up
-11	- 7	6. Civil Eng.	-28 down	-20 -27	-15 -19	-7 -14	≠4 -6	≠11 ≠5	≠16 ≠12	≠23 ≠17	≠24 up
-16	-17	7. Arch.	-62 down	-49 -61	-39 -48	-29 -38	-20 -28	-13 -19	-7 -12	≠3 -6	≠4 up
-18	-13	8. Geol.	-62 down	-49 -61	-38 -48	-22 -37	-8 -21	≠8 -7	≠20 ≠9	≠29 ≠21	≠30 up
-15	-10	9. Chem.	-30 down	-27 -29	-20 -26	-11 -19X	≠4 -10	≠20 ≠5	≠29 ≠21	≠33 ≠30	≠34 up
-41	-34	10. Physics	-77 down	-65 -76	-53 -64	-34 -52	-16 -33	≠2 -15	≠15 ≠3	≠24 ≠16	≠25 up
-30	-34	11. Math.	-103 down	-76 -102	-54 -75	-38 -53	-21 -37	-9 -20	0 -8	≠10 ≠1	≠11 up
-15	-10	12. Biol. Sci.	-29 down	-25 -28	-20 -24	-15 -19X	-6 -14	≠6 -5	≠13 ≠7	≠22 ≠14	≠23 up
-27	-18	13. Agri.	-32 down	-24 -31X	-17 -23	-8 -16	≠3 -7	≠17 ≠4	≠27 ≠18	≠40 ≠28	≠41 up
- 2	- 3	14. Home Ec.	-15 down	-9 -14	-5 -8	-1 -4	≠5 0	≠9 ≠6	≠13 ≠10	≠17 ≠14	≠18 up
0	- 3	15. Fine Arts	-31 down	-24 -30	-20 -23	-16 -19	-11 -15	-7 -10	≠4 -6	≠16 ≠5	≠17 up
≠21	≠18	16. Engl.	-42 down	-31 -41	-24 -30	-12 -23	≠2 -11	≠16 ≠3	≠28 ≠17	≠39 ≠29	≠40 up
≠ 8	≠ 9	17. Hist.	-48 down	-32 -47	-24 -31	-16 -23	-5 -15	≠5 -4	≠13 ≠6	≠20 ≠14	≠21 up
- 5	- 4	18. Journ.	-23 down	-19 -22	-16 -18	-13 -15	-8 -12	-1 -7	≠5 0	≠9 ≠6	≠10 up
≠ 6	- 3	19. Lang.	-52 down	-41 -51	-33 -40	-25 -32	-15 -24	-5 -14	≠3 -4	≠13 ≠4X	≠14 up
- 3	- 9	20. Speech	-86 down	-65 -85	-52 -64	-40 -51	-23 -39	-11 -22	0 -10	≠14 ≠1	≠15 up
≠11	≠10	21. Soc.	-33 down	-26 -32	-20 -25	-13 -19	-4 -12	≠4 -3	≠9 ≠5	≠16 ≠10	≠17 up
≠10	≠10	22. Psych.	-24 down	-20 -23	-16 -19	-10 -15	-3 -9	≠5 -2	≠13 ≠6	≠19 ≠14	≠20 up
≠ 3	- 2	23. Sec. Ed.	-15 down	-11 -14	-9 -10	-7 -8	-2 -6	≠7 -1X	≠12 ≠8	≠16 ≠13	≠17 up
- 4	- 8	24. Elem. Ed.	-25 down	-18 -24	-13 -17	-6 -12	≠3 -5X	≠9 ≠4	≠15 ≠10	≠22 ≠16	≠23 up
- 4	- 2	25. Phys. Ed.	-40 down	-34 -39	-25 -33	-15 -24	-6 -14	-1 -5	≠6 0	≠12 ≠7	≠13 up
- 3	- 3	26. Milit. Sci.	-11 down	-6 -10	0 -5	≠5 ≠1	≠10 ≠6	≠15 ≠11	≠18 ≠16	≠21 ≠19	≠22 up
- 7	- 7	27. Music	-28 down	-21 -27	-17 -20	-13 -16	-8 -12	-4 -7X	≠2 -3	≠9 ≠3	≠10 up
-34	-36	28. Relig.	-140 down	-110 -139	-84 -109	-60 -83	-40 -59	-16 -39	-1 -15	≠17 0	≠18 up

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: **ART** N: **8** SEX: **1 male, 7 females**

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean		SCALED SCORES: 1	2	3	4	5	6	7	8	9
-12.5	-12	1. Commer. Arts	-19 down	-15 -18	-10 -14	-4 -9	≠2 -3	≠6 ≠3	≠9 ≠7	≠14 ≠10	≠15 up
-13.5	-16	2. Bus. Ad.	-39 down	-30 -38	-22 -29	-15 -21	-8 -14	-1 -7	≠8 0	≠17 ≠9	≠18 up
-60.5	-57	3. Pub. Ser. Eng.	-121 down	-78 -120	-53 -77	-31 -52	-17 -30	-3 -16	≠10 -2	≠19 ≠11	≠20 up
-24	-18	4. Mech. Eng.	-38 down	-29 -37	-19 -28	0 -18	≠17 ≠1	≠30 ≠18	≠40 ≠31	≠44 ≠41	≠45 up
-26	-20	5. Elec. Eng.	-28 down	-22 -27	-16 -21	-1 -15	≠15 0	≠24 ≠16	≠33 ≠25	≠39 ≠34	≠40 up
-11	-10	6. Civil Eng.	-28 down	-20 -27	-15 -19	-7 -14	≠4 -6	≠11 ≠5	≠16 ≠12	≠23 ≠17	≠24 up
-9.5	- 9	7. Arch.	-62 down	-49 -61	-39 -48	-29 -38	-20 -28	-13 -19	-7 -12	≠3 -6	≠4 up
-19	-23	8. Geol.	-62 down	-49 -61	-38 -48	-22 -37	-8 -21	≠8 -7	≠20 ≠9	≠29 ≠21	≠30 up
-19	-13	9. Chem.	-30 down	-27 -29	-20 -26	-11 -19	≠4 -10	≠20 ≠5	≠29 ≠21	≠33 ≠30	≠34 up
-49.5	-44	10. Physics	-77 down	-65 -76	-53 -64	-34 -52	-16 -33	≠2 -15	≠15 ≠3	≠24 ≠16	≠25 up
-53	-51	11. Math.	-103 down	-76 -102	-54 -75	-38 -53	-21 -37	-9 -20	0 -8	≠10 ≠1	≠11 up
-20	-14	12. Biol. Sci.	-29 down	-25 -28	-20 -24	-15 -19	-6 -14	≠6 -5	≠13 ≠7	≠22 ≠14	≠23 up
-35	-33	13. Agri.	-32 down	-24 -31	-17 -23	-8 -16	≠3 -7	≠17 ≠4	≠27 ≠18	≠40 ≠28	≠41 up
≠ 3	≠ 4	14. Home Ec.	-15 down	-9 -14	-5 -8	-1 -4	≠5 0	≠9 ≠6	≠13 ≠10	≠17 ≠14	≠18 up
≠13	≠13	15. Fine Arts	-31 down	-24 -30	-20 -23	-16 -19	-11 -15	-7 -10	-4 -6	≠16 ≠5	≠17 up
≠15	≠21	16. Engl.	-42 down	-31 -41	-24 -30	-12 -23	≠2 -11	≠16 ≠3	≠28 ≠17	≠39 ≠29	≠40 up
≠ 1	- 1	17. Hist.	-48 down	-32 -47	-24 -31	-16 -23	-5 -15	≠5 -4	≠13 ≠6	≠20 ≠14	≠21 up
-10.5	- 9	18. Journ.	-23 down	-19 -22	-16 -18	-13 -15	-8 -12	-1 -7	≠5 0	≠9 ≠6	≠10 up
- 3.5	- 5	19. Lang.	-52 down	-41 -51	-33 -40	-25 -32	-15 -24	-5 -14	≠3 -4	≠13 ≠4	≠14 up
- 9	-13	20. Speech	-86 down	-65 -85	-52 -64	-40 -51	-23 -39	-11 -22	0 -10	≠14 ≠1	≠15 up
≠ 1.5	0	21. Soc.	-33 down	-26 -32	-20 -25	-13 -19	-4 -12	≠4 -3	≠9 ≠5	≠16 ≠10	≠17 up
≠ 3	≠ 2	22. Psych.	-24 down	-20 -23	-16 -19	-10 -15	-3 -9	≠5 -2	≠13 ≠6	≠19 ≠14	≠20 up
- 2.5	- 2	23. Sec. Ed.	-15 down	-11 -14	-9 -10	-7 -8	-2 -6	≠7 -1	≠12 ≠8	≠16 ≠13	≠17 up
- 5	- 2	24. Elem. Ed.	-25 down	-18 -24	-13 -17	-6 -12	≠3 -5	≠9 ≠4	≠15 ≠10	≠22 ≠16	≠23 up
-18	-19	25. Phys. Ed.	-40 down	-34 -39	-25 -33	-15 -24	-6 -14	-1 -5	≠6 0	≠12 ≠7	≠13 up
- 7	- 7	26. Milit. Sci.	-11 down	-6 -10	0 -5	≠5 ≠1	≠10 ≠6	≠15 ≠11	≠18 ≠16	≠21 ≠19	≠22 up
- 9.5	-10	27. Music	-28 down	-21 -27	-17 -20	-13 -16	-8 -12	-4 -7	≠2 -3	≠9 ≠3	≠10 up
-78.5	-66	28. Relig.	-140 down	-110 -139	-84 -109	-60 -83	-40 -59	-16 -39	-1 -15	≠17 0	≠18 up

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: **BIOLOGICAL SCIENCES** N: **13** SEX: **11 males, 2 females**

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean		SCALED SCORES: 1	2	3	4	5	6	7	8	9
-15	-16	1. Commer. Arts	-19 down	-15 -18	-10 -14	-4 -9	≠2 -3	≠6 ≠3	≠9 ≠7	≠14 ≠10	≠15 up
-31	-31	2. Bus. Ad.	-39 down	-30 -38	-22 -29	-15 -21	-8 -14	-1 -7	≠8 0	≠17 ≠9	≠18 up
-34	-40	3. Pub. Ser. Eng.	-121 down	-78 -120	-53 -77	-31 -52	-17 -30	-3 -16	≠10 -2	≠19 ≠11	≠20 up
≠5	≠4	4. Mech. Eng.	-38 down	-29 -37	-19 -28	0 -18	≠17 ≠1	≠30 ≠18	≠40 ≠31	≠44 ≠41	≠45 up
≠3	≠5	5. Elec. Eng.	-28 down	-22 -27	-16 -21	-1 -15	≠15 0	≠24 ≠16	≠33 ≠25	≠39 ≠34	≠40 up
-7	-5	6. Civil Eng.	-28 down	-20 -27	-15 -19	-7 -14X	≠4 -6	≠11 ≠5	≠16 ≠12	≠23 ≠17	≠24 up
-33	-37	7. Arch.	-62 down	-49 -61	-39 -48	-29 -38	-20 -28	-13 -19	-7 -12	≠3 -6	≠4 up
-4	-3	8. Geol.	-62 down	-49 -61	-38 -48	-22 -37	-8 -21	≠8 -7	≠20 ≠9	≠29 ≠21	≠30 up
≠21	≠16	9. Chem.	-30 down	-27 -29	-20 -26	-11 -19	≠4 -10	≠20 ≠5	≠29 ≠21X	≠33 ≠30	≠34 up
≠5	-2	10. Physics	-77 down	-65 -76	-53 -64	-34 -52	-16 -33	≠2 -15	≠15 ≠3X	≠24 ≠16	≠25 up
-1	-10	11. Math.	-103 down	-76 -102	-54 -75	-38 -53	-21 -37	-9 -20	0 -8X	≠10 ≠1	≠11 up
≠22	≠20	12. Biol. Sci.	-29 down	-25 -28	-20 -24	-15 -19	-6 -14	≠6 -5	≠13 ≠7	≠22 ≠14	≠23 up
≠15	≠12	13. Agri.	-32 down	-24 -31	-17 -23	-8 -16	≠3 -7	≠17 ≠4	≠27 ≠18	≠40 ≠28	≠41 up
-8	-7	14. Home Ec.	-15 down	-9 -14	-5 -8	-1 -4	≠5 0	≠9 ≠6	≠13 ≠10	≠17 ≠14	≠18 up
-18	-20	15. Fine Arts	-31 down	-24 -30	-20 -23	-16 -19	-11 -15	-7 -10	≠4 -6	≠16 ≠5	≠17 up
-9	-10	16. Engl.	-42 down	-31 -41	-24 -30	-12 -23	≠2 -11	≠16 ≠3	≠28 ≠17	≠39 ≠29	≠40 up
-13	-11	17. Hist.	-48 down	-32 -47	-24 -31	-16 -23	-5 -15	≠5 -4	≠13 ≠6	≠20 ≠14	≠21 up
-17	-15	18. Journ.	-23 down	-19 -22	-16 -18X	-13 -15	-8 -12	-1 -7	≠5 0	≠9 ≠6	≠10 up
-18	-19	19. Lang.	-52 down	-41 -51	-33 -40	-25 -32	-15 -24	-5 -14	≠3 -4	≠13 ≠4	≠14 up
-40	-42	20. Speech	-86 down	-65 -85	-52 -64	-40 -51	-23 -39	-11 -22	0 -10	≠14 ≠1	≠15 up
-9	-10	21. Soc.	-33 down	-26 -32	-20 -25	-13 -19	-4 -12	≠4 -3	≠9 ≠5	≠16 ≠10	≠17 up
-3	≠1	22. Psych.	-24 down	-20 -23	-16 -19	-10 -15	-3 -9X	≠5 -2	≠13 ≠6	≠19 ≠14	≠20 up
-6	-4	23. Sec. Ed.	-15 down	-11 -14	-9 -10	-7 -8	-2 -6	≠7 -1	≠12 ≠8	≠16 ≠13	≠17 up
-20	-18	24. Elem. Ed.	-25 down	-18 -24	-13 -17	-6 -12	≠3 -5	≠9 ≠4	≠15 ≠10	≠22 ≠16	≠23 up
-7	-5	25. Phys. Ed.	-40 down	-34 -39	-25 -33	-15 -24	-6 -14X	-1 -5	≠6 0	≠12 ≠7	≠13 up
-1	-5	26. Milit. Sci.	-11 down	-6 -10	0 -5	≠5 ≠1	≠10 ≠6	≠15 ≠11	≠18 ≠16	≠21 ≠19	≠22 up
-14	-14	27. Music	-28 down	-21 -27	-17 -20	-13 -16	-8 -12	-4 -7	≠2 -3	≠9 ≠3	≠10 up
-18	-23	28. Relig.	-140 down	-110 -139	-84 -109	-60 -83	-40 -59	-16 -39	-1 -15	≠17 0	≠18 up

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: ~~BUSINESS ADMINISTRA.~~ N: ~~5~~ SEX: ~~All males~~

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean	SCALED SCORES:	1	2	3	4	5	6	7	8	9
		1. Commer.	-19	-15	-10	-4	+2	+6	+9	+14	+15
- 6.5	- 7	Arts	down	-18	-14	-9	-3	+3	+7	+10	up
		2. Bus.	-39	-30	-22	-15	-8	-1	+8	+17	+18
+19.5	+17	Ad.	down	-38	-29	-21	-14	-7	0	+9	up X
		3. Pub.	-121	-78	-53	-31	-17	-3	+10	+19	+20
+ 3	- 2	Ser. Eng.	down	-120	-77	-52	-30	-16	-2	+11	up
		4. Mech.	-38	-29	-19	0	+17	+30	+40	+44	+45
-13.5	-15	Eng.	down	-37	-28	-18	+1	+18	+31	+41	up
		5. Elec.	-28	-22	-16	-1	+15	+24	+33	+39	+40
-11	-10	Eng.	down	-27	-21	-15	0	+16	+25	+34	up
		6. Civil	-28	-20	-15	-7	+4	+11	+16	+23	+24
- 8	- 8	Eng.	down	-27	-19	-14	-6	+5	+12	+17	up
		7. Arch.	-62	-49	-39	-29	-20	-13	-7	+3	+4
-17	-21		down	-61	-48	-38	-28	-19 X	-12	-6	up
		8. Geol.	-62	-49	-38	-22	-8	+8	+20	+29	+30
-17	-22		down	-61	-48	-37	-21 X	-7	+9	+21	up
		9. Chem.	-30	-27	-20	-11	+4	+20	+29	+33	+34
- 3.5	- 8		down	-29	-26	-19	-10	+5	+21	+30	up
		10. Phys-	-77	-65	-53	-34	-16	+2	+15	+24	+25
-35.5	-38	ics	down	-76	-64	-52	-33	-15	+3	+16	up
		11. Math.	-103	-76	-54	-38	-21	-9	0	+10	+11
-20.5	-24		down	-102	-75	-53	-37	-20	-8	+1	up
		12. Biol.	-29	-25	-20	-15	-6	+6	+13	+22	+23
-14.5	-17	Sci.	down	-28	-24	-19	-14	-5	+7	+14	up
		13. Agri.	-32	-24	-17	-8	+3	+17	+27	+40	+41
- 4	- 2		down	-31	-23	-16	-7	+4	+18	+28	up
		14. Home	-15	-9	-5	-1	+5	+9	+13	+17	+18
- 8.5	- 9	Ec.	down	-14	-8	-4	0	+6	+10	+14	up
		15. Fine	-31	-24	-20	-16	-11	-7	+4	+16	+17
-12	-14	Arts	down	-30	-23	-19	-15	-10	-6	+5	up
		16. Engl.	-42	-31	-24	-12	+2	+16	+28	+39	+40
+12	+ 5		down	-41	-30	-23	-11	+3	+17	+29	up
		17. Hist.	-48	-32	-24	-16	-5	+5	+13	+20	+21
+ 8.5	+ 7		down	-47	-31	-23	-15	-4	+6	+14	up
		18. Journ.	-23	-19	-16	-13	-8	-1	+5	+9	+10
- 2.5	- 2		down	-22	-18	-15	-12	-7	0	+6	up
		19. Lang.	-52	-41	-33	-25	-15	-5	+3	+13	+14
-19.5	-17		down	-51	-40	-32	-24	-14	-4	+4	up
		20. Speech	-86	-65	-52	-40	-23	-11	0	+14	+15
-12	-14		down	-85	-64	-51	-39	-22	-10	+1	up
		21. Soc.	-33	-26	-20	-13	-4	+4	+9	+16	+17
- 0.5	0		down	-32	-25	-19	-12	-3	+5	+10	up
		22. Psych.	-24	-20	-16	-10	-3	+5	+13	+19	+20
-11	- 9		down	-23	-19	-15 X	-9	-2	+6	+14	up
		23. Sec.	-15	-11	-9	-7	-2	+7	+12	+16	+17
- 2.5	- 1	Ed.	down	-14	-10	-8	-6 X	-1	+8	+13	up
		24. Elem.	-25	-18	-13	-6	+3	+9	+15	+22	+23
- 3	- 7	Ed.	down	-24	-17	-12	-5 X	+4	+10	+16	up
		25. Phys.	-40	-34	-25	-15	-6	-1	+6	+12	+13
-13.5	-15	Ed.	down	-39	-33	-24	-14 X	-5	0	+7	up
		26. Milit.	-11	-6	0	+5	+10	+15	+18	+21	+22
- 1.5	+ 1	Sci.	down	-10	-5 X	+1	+6	+11	+16	+19	up
		27. Music	-28	-21	-17	-13	-8	-4	+2	+9	+10
-12.5	-14		down	-27	-20	-16	-12	-7	-3	+3	up
		28. Relig.	-140	-110	-84	-60	-40	-16	-1	+17	+18
-43.5	-42		down	-139	-109	-83	-59	-39	-15	0	up

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: CHEMISTRY N: 8 SEX: 7 males, 1 female.

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean	SCALED SCORES:	1	2	3	4	5	6	7	8	9
-19.5	-20	1. Commer. Arts	-19 down	-15 -18	-10 -14	-4 -9	+2 -3	+6 +3	+9 +7	+14 +10	+15 up
-24	-22	2. Bus. Ad.	-39 down	-30 -38	-22 -29	-15 -21	-8 -14	-1 -7	+8 0	+17 +9	+18 up
-26	-38	3. Pub. Ser. Eng.	-121 down	-78 -120	-53 -77	-31 -52	-17 -30	-3 -16	+10 -2	+19 +11	+20 up
+23	+12	4. Mech. Eng.	-38 down	-29 -37	-19 -28	0 -18	+17 +1	+30 +18	+40 +31	+44 +41	+45 up
+19.5	+12	5. Elec. Eng.	-28 down	-22 -27	-16 -21	-1 -15	+15 0	+24 +18	+33 +25	+39 +34	+40 up
- 2	- 1	6. Civil Eng.	-28 down	-20 -27	-15 -19	-7 -14	+4 -6	+11 +5	+16 +12	+23 +17	+24 up
-20	-25	7. Arch.	-62 down	-49 -61	-39 -48	-29 -38	-20 -28	-13 -19	-7 -12	+3 -6	+4 up
+15	+ 4	8. Geol.	-62 down	-49 -61	-38 -48	-22 -37	-8 -21	+8 -7	+20 +9	+29 +21	+30 up
+25.5	+20	9. Chem.	-30 down	-27 -29	-20 -26	-11 -19	+4 -10	+20 +5	+29 +21	+33 +30	+34 up
- 4.5	- 3.2	10. Phys-ics	-77 down	-65 -76	-53 -64	-34 -52	-16 -33	+2 -15	+15 +3	+24 +16	+25 up
-19	-25	11. Math.	-103 down	-76 -102	-54 -75	-38 -53	-21 -37	-9 -20	0 -8	+10 +1	+11 up
+ 7	+ 5	12. Biol. Sci.	-29 down	-25 -28	-20 -24	-15 -19	-6 -14	+6 -5	+13 +7	+22 +14	+23 up
+20.5	+14	13. Agri.	-32 down	-24 -31	-17 -23	-8 -16	+3 -7	+17 +4	+27 +18	+40 +28	+41 up
- 7.5	- 5	14. Home Ec.	-15 down	-9 -14	-5 -8	-1 -4	+5 0	+9 +6	+13 +10	+17 +14	+18 up
-14	-14	15. Fine Arts	-31 down	-24 -30	-20 -23	-16 -19	-11 -15	-7 -10	+4 -6	+16 +5	+17 up
- 7.5	- 5	16. Engl.	-42 down	-31 -41	-24 -30	-12 -23	+2 -11	+16 +3	+28 +17	+39 +29	+40 up
-16	-11	17. Hist.	-48 down	-32 -47	-24 -31	-16 -23	-5 -15	+5 -4	+13 +6	+20 +14	+21 up
-13.5	-14	18. Journ.	-23 down	-19 -22	-16 -18	-13 -19	-8 -12	-1 -7	+5 0	+9 +6	+10 up
-21	-23	19. Lang.	-52 down	-41 -51	-33 -40	-25 -32	-15 -24	-5 -14	+3 -4	+13 +4	+14 up
-33	-39	20. Speech	-86 down	-65 -85	-52 -64	-40 -51	-23 -39	-11 -22	0 -10	+14 +1	+15 up
- 7.5	- 7	21. Soc.	-33 down	-26 -32	-20 -25	-13 -19	-4 -12	+4 -3	+9 +5	+16 +10	+17 up
0	+ 1	22. Psych.	-24 down	-20 -23	-16 -19	-10 -15	-3 -9	+5 -2	+13 +6	+19 +14	+20 up
- 5	- 2	23. Sec. Ed.	-15 down	-11 -14	-9 -10	-7 -8	-2 -6	+7 -1	+12 +8	+16 +13	+17 up
-14	-14	24. Elem. Ed.	-25 down	-18 -24	-13 -17	-6 -12	+3 -5	+9 +4	+15 +10	+22 +16	+23 up
-12	-12	25. Phys. Ed.	-40 down	-34 -39	-25 -33	-15 -24	-6 -14	-1 -5	+6 0	+12 +7	+13 up
- 3	- 3	26. Milit. Sci.	-11 down	-6 -10	0 -5	+5 +1	+10 +6	+15 +11	+18 +16	+21 +19	+22 up
-19	-18	27. Music	-28 down	-21 -27	-17 -20	-13 -16	-8 -12	-4 -7	+2 -3	+9 +3	+10 up
-34.5	-37	28. Relig.	-140 down	-110 -139	-84 -109	-60 -83	-40 -59	-16 -39	-1 -15	+17 0	+18 up

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: EDUCATION N: 9 SEX: 2 males, 7 females

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean		SCALED SCORES: 1	2	3	4	5	6	7	8	9
- 2	- 4	1. Commer. Arts	-19 down	-15 -18	-10 -14	-4 -9	+2 -3	+6 +3	+9 +7	+14 +10	+15 up
-13	-11	2. Bus. Ad.	-39 down	-30 -38	-22 -29	-15 -21	-8 -14	-1 -7	+8 0	+17 +9	+18 up
-40	-33	3. Pub. Ser. Eng.	-121 down	-78 -120	-53 -77	-31 -52	-17 -30	-3 -16	+10 -2	+19 +11	+20 up
-19	- 5	4. Mech. Eng.	-38 down	-29 -37	-19 -28 X	0 -18	+17 +1	+30 +18	+40 +31	+44 +41	+45 up
-19	- 4	5. Elec. Eng.	-28 down	-22 -27	-16 -21 X	-1 -15	+15 0	+24 +16	+33 +25	+39 +34	+40 up
-11	- 6	6. Civil Eng.	-28 down	-20 -27	-15 -19	-7 -14 X	+4 -6	+11 +5	+16 +12	+23 +17	+24 up
-28	-29	7. Arch.	-62 down	-49 -61	-39 -48	-29 -38	-20 -28 X	-13 -19	-7 -12	+3 -6	+4 up
-20	- 8	8. Geol.	-62 down	-49 -61	-38 -48	-22 -37	-8 -21	+8 -7	+20 +9	+29 +21	+30 up
- 9	+ 3	9. Chem.	-30 down	-27 -29	-20 -26	-11 -19	+4 -10	+20 +5	+29 +21	+33 +30	+34 up
-35	-32	10. Phys- ics	-77 down	-65 -76	-53 -64	-34 -52 X	-16 -33	+2 -15	+15 +3	+24 +16	+25 up
-22	-29	11. Math.	-103 down	-76 -102	-54 -75	-38 -53	-21 -37	-9 -20	0 -8	+10 +1	+11 up
+ 6	+ 5	12. Biol. Sci.	-29 down	-25 -28	-20 -24	-15 -19	-6 -14	+6 -5	+13 +7	+22 +14	+23 up
-11	- 6	13. Agri.	-32 down	-24 -31	-17 -23	-8 -16 X	+3 -7	+17 +4	+27 +18	+40 +28	+41 up
+ 7	+ 5	14. Home Ec.	-15 down	-9 -14	-5 -8	-1 -4	+5 0	+9 +6 X	+13 +10	+17 +14	+18 up
-10	- 9	15. Fine Arts	-31 down	-24 -30	-20 -23	-16 -19	-11 -15	-7 -10	+4 -6	+16 +5	+17 up
+26	+24	16. Engl.	-42 down	-31 -41	-24 -30	-12 -23	+2 -11	+16 +3	+28 +17	+39 +29	+40 up
+14	+ 9	17. Hist.	-48 down	-32 -47	-24 -31	-16 -23	-5 -15	+5 -4	+13 +6	+20 +14 X	+21 up
-11	- 9	18. Journ.	-23 down	-19 -22	-16 -18	-13 -15	-8 -12	-1 -7	+5 0	+9 +6	+10 up
- 7	- 4	19. Lang.	-52 down	-41 -51	-33 -40	-25 -32	-15 -24	-5 -14 X	+3 -4	+13 +4	+14 up
-10	-11	20. Speech	-86 down	-65 -85	-52 -64	-40 -51	-23 -39	-11 -22	0 -10 X	+14 +1	+15 up
+12	+10	21. Soc.	-33 down	-26 -32	-20 -25	-13 -19	-4 -12	+4 -3	+9 +5	+16 +10	+17 up
+14	+14	22. Psych.	-24 down	-20 -23	-16 -19	-10 -15	-3 -9	+5 -2	+13 +6	+19 +14	+20 up
+12	+13	23. Sec. Ed.	-15 down	-11 -14	-9 -10	-7 -8	-2 -6	+7 -1	+12 +8 X	+16 +13	+17 up
+ 8	+ 9	24. Elem. Ed.	-25 down	-18 -24	-13 -17	-6 -12	+3 -5	+9 +4	+15 +10	+22 +16	+23 up
- 1	0	25. Phys. Ed.	-40 down	-34 -39	-25 -33	-15 -24	-6 -14	-1 -5 X	+6 0	+12 +7	+13 up
- 4	0	26. Milit. Sci.	-11 down	-6 -10	0 -5	+5 +1	+10 +6	+15 +11	+18 +16	+21 +19	+22 up
- 7	- 5	27. Music	-28 down	-21 -27	-17 -20	-13 -16	-8 -12	-4 -7	+2 -3	+9 +3	+10 up
- 6	-17	28. Relig.	-140 down	-110 -139	-84 -109	-60 -83	-40 -59	-16 -39	-1 -15 X	+17 0	+18 up

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: ENGINEERING N: 6 SEX: All males

LEGEND: * = Mean scores; X = Median scores when different from mean.

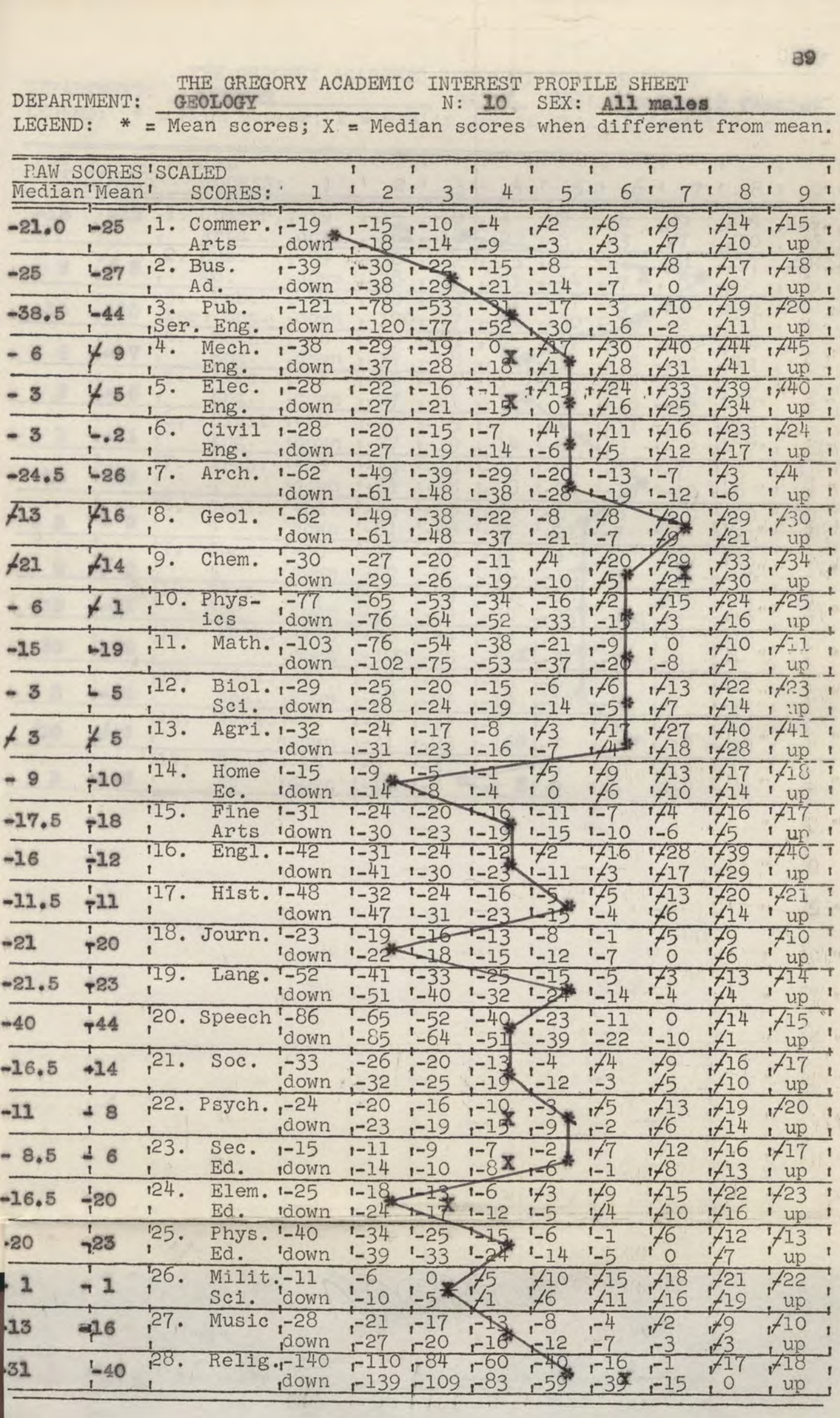
RAW SCORES Median	Mean		SCALED SCORES: 1	2	3	4	5	6	7	8	9
-20	-19	1. Commer. Arts	-19 down	-15 -18	-10 -14	-4 -9	≠2 -3	≠6 ≠3	≠9 ≠7	≠14 ≠10	≠15 up
- 9.5	-10	2. Bus. Ad.	-39 down	-30 -38	-22 -29	-15 -21	-8 -14	-1 -7	≠8 0	≠17 ≠9	≠18 up
- 8.5	-22	3. Pub. Ser. Eng.	-121 down	-78 -120	-53 -77	-31 -52	-17 -30	-3 -16 X	≠10 -2	≠19 ≠11	≠20 up
≠21	≠18	4. Mech. Eng.	-38 down	-29 -37	-19 -28	0 -18	≠17 ≠1	≠30 ≠18	≠40 ≠31	≠44 ≠41	≠45 up
≠20.5	≠21	5. Elec. Eng.	-28 down	-22 -27	-16 -21	-1 -15	≠15 0	≠24 ≠16	≠33 ≠25	≠39 ≠34	≠40 up
≠ 7.5	≠ 8	6. Civil Eng.	-28 down	-20 -27	-15 -19	-7 -14	≠4 -6	≠11 ≠5	≠16 ≠12	≠23 ≠17	≠24 up
-20.5	-22	7. Arch.	-62 down	-49 -61	-39 -48	-29 -38	-20 -28	-13 -19	-7 -12	≠3 -6	≠4 up
≠ 4.5	-2	8. Geol.	-62 down	-49 -61	-38 -48	-22 -37	-8 -21	≠8 -7	≠20 ≠9	≠29 ≠21	≠30 up
≠16	≠14	9. Chem.	-30 down	-27 -29	-20 -26	-11 -19	≠4 -10	≠20 ≠5	≠29 ≠21	≠33 ≠30	≠34 up
- 0.5	- 6	10. Phys-ics	-77 down	-65 -76	-53 -64	-34 -52	-16 -33	≠2 -15	≠15 ≠3	≠24 ≠16	≠25 up
- 2	-15	11. Math.	-103 down	-76 -102	-54 -75	-38 -53	-21 -37	-9 -20	0 -8 X	≠10 ≠1	≠11 up
-13.5	-11	12. Biol. Sci.	-29 down	-25 -28	-20 -24	-15 -19	-6 -14	≠6 -5	≠13 ≠7	≠22 ≠14	≠23 up
≠ 8.5	≠ 6	13. Agri.	-32 down	-24 -31	-17 -23	-8 -16	≠3 -7	≠17 ≠4	≠27 ≠18	≠40 ≠28	≠41 up
-10.5	-10	14. Home Ec.	-15 down	-9 -14	-5 -8	-1 -4	≠5 0	≠9 ≠6	≠13 ≠10	≠17 ≠14	≠18 up
-18	-20	15. Fine Arts	-31 down	-24 -30	-20 -23	-16 -19 X	-11 -15	-7 -10	≠4 -6	≠16 ≠5	≠17 up
-17.5	-15	16. Engl.	-42 down	-31 -41	-24 -30	-12 -23	≠2 -11	≠16 ≠3	≠28 ≠17	≠39 ≠29	≠40 up
-13.5	-12	17. Hist.	-48 down	-32 -47	-24 -31	-16 -23	-5 -15	≠5 -4	≠13 ≠6	≠20 ≠14	≠21 up
-11.5	-11	18. Journ.	-23 down	-19 -22	-16 -18	-13 -15	-8 -12	-1 -7	≠5 0	≠9 ≠6	≠10 up
-26	-25	19. Lang.	-52 down	-41 -51	-33 -40	-25 -32	-15 -24	-5 -14	≠3 -4	≠13 ≠4	≠14 up
-42.5	-42	20. Speech	-86 down	-65 -85	-52 -64	-40 -51	-23 -39	-11 -22	0 -10	≠14 ≠1	≠15 up
-15.5	-15	21. Soc.	-33 down	-26 -32	-20 -25	-13 -19	-4 -12	≠4 -3	≠9 ≠5	≠16 ≠10	≠17 up
- 9	- 6	22. Psych.	-24 down	-20 -23	-16 -19	-10 -15	-3 -9	≠5 -2	≠13 ≠6	≠19 ≠14	≠20 up
- 1	- 1	23. Sec. Ed.	-15 down	-11 -14	-9 -10	-7 -8	-2 -6	≠7 -1	≠12 ≠8	≠16 ≠13	≠17 up
-18	-16	24. Elem. Ed.	-25 down	-18 X -24	-13 -17	-6 -12	≠3 -5	≠9 ≠4	≠15 ≠10	≠22 ≠16	≠23 up
-15	-15	25. Phys. Ed.	-40 down	-34 -39	-25 -33	-15 -24	-6 -14	-1 -5	≠6 0	≠12 ≠7	≠13 up
≠ 5	≠ 6	26. Milit. Sci.	-11 down	-6 -10	0 -5	≠5 ≠1 X	≠10 ≠6	≠15 ≠11	≠18 ≠16	≠21 ≠19	≠22 up
-17.5	-17	27. Music	-28 down	-21 -27	-17 -20	-13 -16	-8 -12	-4 -7	≠2 -3	≠9 ≠3	≠10 up
-51.5	-49	28. Relig.	-140 down	-110 -139	-84 -109	-60 -83	-40 -59	-16 -39	-1 -15	≠17 0	≠18 up

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: GEOLOGY N: 10 SEX: All males

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean	SCALED SCORES:	1	2	3	4	5	6	7	8	9
-21.0	-25	1. Commer. Arts	-19 down	-15 -18	-10 -14	-4 -9	≠2 -3	≠6 ≠3	≠9 ≠7	≠14 ≠10	≠15 up
-25	-27	2. Bus. Ad.	-39 down	-30 -38	-22 -29	-15 -21	-8 -14	-1 -7	≠8 0	≠17 ≠9	≠18 up
-38.5	-44	3. Pub. Ser. Eng.	-121 down	-78 -120	-53 -77	-31 -52	-17 -30	-3 -16	≠10 -2	≠19 ≠11	≠20 up
- 6	≠ 9	4. Mech. Eng.	-38 down	-29 -37	-19 -28	0 -18	≠17 ≠1	≠30 ≠18	≠40 ≠31	≠44 ≠41	≠45 up
- 3	≠ 5	5. Elec. Eng.	-28 down	-22 -27	-16 -21	-1 -15	≠15 0	≠24 ≠16	≠33 ≠25	≠39 ≠34	≠40 up
- 3	-.2	6. Civil Eng.	-28 down	-20 -27	-15 -19	-7 -14	≠4 -6	≠11 ≠5	≠16 ≠12	≠23 ≠17	≠24 up
-24.5	-26	7. Arch.	-62 down	-49 -61	-39 -48	-29 -38	-20 -28	-13 -19	-7 -12	≠3 -6	≠4 up
≠13	≠16	8. Geol.	-62 down	-49 -61	-38 -48	-22 -37	-8 -21	≠8 -7	≠20 ≠9	≠29 ≠21	≠30 up
≠21	≠14	9. Chem.	-30 down	-27 -29	-20 -26	-11 -19	≠4 -10	≠20 ≠5	≠29 ≠21	≠33 ≠30	≠34 up
- 6	≠ 1	10. Phys-ics	-77 down	-65 -76	-53 -64	-34 -52	-16 -33	≠2 -15	≠15 ≠3	≠24 ≠16	≠25 up
-15	-19	11. Math.	-103 down	-76 -102	-54 -75	-38 -53	-21 -37	-9 -20	0 -8	≠10 ≠1	≠11 up
- 3	- 5	12. Biol. Sci.	-29 down	-25 -28	-20 -24	-15 -19	-6 -14	≠6 -5	≠13 ≠7	≠22 ≠14	≠23 up
≠ 3	≠ 5	13. Agri.	-32 down	-24 -31	-17 -23	-8 -16	≠3 -7	≠17 ≠4	≠27 ≠18	≠40 ≠28	≠41 up
- 9	+10	14. Home Ec.	-15 down	-9 -14	-5 -8	-1 -4	≠5 0	≠9 ≠6	≠13 ≠10	≠17 ≠14	≠18 up
-17.5	+18	15. Fine Arts	-31 down	-24 -30	-20 -23	-16 -19	-11 -15	-7 -10	≠4 -6	≠16 ≠5	≠17 up
-16	+12	16. Engl.	-42 down	-31 -41	-24 -30	-12 -23	≠2 -11	≠16 ≠3	≠28 ≠17	≠39 ≠29	≠40 up
-11.5	+11	17. Hist.	-48 down	-32 -47	-24 -31	-16 -23	-5 -15	≠5 -4	≠13 ≠6	≠20 ≠14	≠21 up
-21	+20	18. Journ.	-23 down	-19 -22	-16 -18	-13 -15	-8 -12	-1 -7	≠5 0	≠9 ≠6	≠10 up
-21.5	+23	19. Lang.	-52 down	-41 -51	-33 -40	-25 -32	-15 -24	-5 -14	≠3 -4	≠13 ≠4	≠14 up
-40	+44	20. Speech	-86 down	-65 -85	-52 -64	-40 -51	-23 -39	-11 -22	0 -10	≠14 ≠1	≠15 up
-16.5	+14	21. Soc.	-33 down	-26 -32	-20 -25	-13 -19	-4 -12	≠4 -3	≠9 ≠5	≠16 ≠10	≠17 up
-11	+ 8	22. Psych.	-24 down	-20 -23	-16 -19	-10 -15	-3 -9	≠5 -2	≠13 ≠6	≠19 ≠14	≠20 up
- 8.5	+ 6	23. Sec. Ed.	-15 down	-11 -14	-9 -10	-7 -8	-2 -6	≠7 -1	≠12 ≠8	≠16 ≠13	≠17 up
-16.5	+20	24. Elem. Ed.	-25 down	-18 -24	-13 -17	-6 -12	≠3 -5	≠9 ≠4	≠15 ≠10	≠22 ≠16	≠23 up
-20	+23	25. Phys. Ed.	-40 down	-34 -39	-25 -33	-15 -24	-6 -14	-1 -5	≠6 0	≠12 ≠7	≠13 up
- 1	+ 1	26. Milit. Sci.	-11 down	-6 -10	0 -5	≠5 ≠1	≠10 ≠6	≠15 ≠11	≠18 ≠16	≠21 ≠19	≠22 up
-13	+16	27. Music	-28 down	-21 -27	-17 -20	-13 -16	-8 -12	-4 -7	≠2 -3	≠9 ≠3	≠10 up
-31	-40	28. Relig.	-140 down	-110 -139	-84 -109	-60 -83	-40 -59	-16 -39	-1 -15	≠17 0	≠18 up



THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: **HISTORY** N: **7** SEX: **5 males, 2 females**

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean	SCALED SCORES:	1	2	3	4	5	6	7	8	9
-18	-13	1. Commer. Arts	-19 down	-15 -18	-10 -14	-4 -9	≠2 -3	≠6 ≠3	≠9 ≠7	≠14 ≠10	≠15 up
- 2	≠ 3	2. Bus. Ad.	-39 down	-30 -38	-22 -29	-15 -21	-8 -14	-1 -7	≠8 0	≠17 ≠9	≠18 up
-14	-10	3. Pub. Ser. Eng.	-121 down	-78 -120	-53 -77	-31 -52	-17 -30	-3 -16	≠10 -2	≠19 ≠11	≠20 up
- 8	- 7	4. Mech. Eng.	-38 down	-29 -37	-19 -28	0 -18	≠17 ≠1	≠30 ≠18	≠40 ≠31	≠44 ≠41	≠45 up
- 9	- 6	5. Elec. Eng.	-28 down	-22 -27	-16 -21	-1 -15	≠15 0	≠24 ≠16	≠33 ≠25	≠39 ≠34	≠40 up
- 1	- 1	6. Civil Eng.	-28 down	-20 -27	-15 -19	-7 -14	≠4 -6	≠11 ≠5	≠16 ≠12	≠23 ≠17	≠24 up
-16	-18	7. Arch.	-62 down	-49 -61	-39 -48	-29 -38	-20 -28	-13 -19	-7 -12	≠3 -6	≠4 up
- 5	- 9	8. Geol.	-62 down	-49 -61	-38 -48	-22 -37	-8 -21	≠8 -7	≠20 ≠9	≠29 ≠21	≠30 up
0	≠ 2	9. Chem.	-30 down	-27 -29	-20 -26	-11 -19	≠4 -10	≠20 ≠5	≠29 ≠21	≠33 ≠30	≠34 up
-32	-33	10. Phys-ics	-77 down	-65 -76	-53 -64	-34 -52	-16 -33	≠2 -15	≠15 ≠3	≠24 ≠16	≠25 up
-38	-30	11. Math.	-103 down	-76 -102	-54 -75	-38 -53	-21 -37	-9 -20	0 -8	≠10 ≠1	≠11 up
- 8	-12	12. Biol. Sci.	-29 down	-25 -28	-20 -24	-15 -19	-6 -14	≠6 -5	≠13 ≠7	≠22 ≠14	≠23 up
≠10	≠ 5	13. Agri.	-32 down	-24 -31	-17 -23	-8 -16	≠3 -7	≠17 ≠4	≠27 ≠18	≠40 ≠28	≠41 up
- 3	- 6	14. Home Ec.	-15 down	-9 -14	-5 -8	-1 -4	≠5 0	≠9 ≠6	≠13 ≠10	≠17 ≠14	≠18 up
-15	-13	15. Fine Arts	-31 down	-24 -30	-20 -23	-16 -19	-11 -15	-7 -10	≠4 -6	≠16 ≠5	≠17 up
≠16	≠17	16. Engl.	-42 down	-31 -41	-24 -30	-12 -23	≠2 -11	≠16 ≠3	≠28 ≠17	≠39 ≠29	≠40 up
≠24	≠22	17. Hist.	-48 down	-32 -47	-24 -31	-16 -23	-5 -15	≠5 -4	≠13 ≠6	≠20 ≠14	≠21 up
- 5	- 6	18. Journ.	-23 down	-19 -22	-16 -18	-13 -15	-8 -12	-1 -7	≠5 0	≠9 ≠6	≠10 up
-13	- 5	19. Lang.	-52 down	-41 -51	-33 -40	-25 -32	-15 -24	-5 -14	≠3 -4	≠13 ≠4	≠14 up
- 6	-13	20. Speech	-86 down	-65 -85	-52 -64	-40 -51	-23 -39	-11 -22	0 -10	≠14 ≠1	≠15 up
≠ 1	0	21. Soc.	-33 down	-26 -32	-20 -25	-13 -19	-4 -12	≠4 -3	≠9 ≠5	≠16 ≠10	≠17 up
≠ 2	- 3	22. Psych.	-24 down	-20 -23	-16 -19	-10 -15	-3 -9	≠5 -2	≠13 ≠6	≠19 ≠14	≠20 up
- 2	≠ 1	23. Sec. Ed.	-15 down	-11 -14	-9 -10	-7 -8	-2 -6	≠7 -1	≠12 ≠8	≠16 ≠13	≠17 up
-10	-10	24. Elem. Ed.	-25 down	-18 -24	-13 -17	-6 -12	≠3 -5	≠9 ≠4	≠15 ≠10	≠22 ≠16	≠23 up
- 6	-12	25. Phys. Ed.	-40 down	-34 -39	-25 -33	-15 -24	-6 -14	-1 -5	≠6 0	≠12 ≠7	≠13 up
≠ 3	≠ 3	26. Milit. Sci.	-11 down	-6 -10	0 -5	≠5 ≠1	≠10 ≠6	≠15 ≠11	≠18 ≠16	≠21 ≠19	≠22 up
-12	-13	27. Music	-28 down	-21 -27	-17 -20	-13 -16	-8 -12	-4 -7	≠2 -3	≠9 ≠3	≠10 up
-17	-22	28. Relig.	-140 down	-110 -139	-84 -109	-60 -83	-40 -59	-16 -39	-1 -15	≠17 0	≠18 up

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: **MUSIC** N: **5** SEX: **4 males, 1 female**

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean		SCALED SCORES: 1	2	3	4	5	6	7	8	9
- 8	-12	1. Commer. Arts	-19 down	-15 -18	-10 -14	-4 -9	X ≠2 -3	≠6 ≠3	≠9 ≠7	≠14 ≠10	≠15 up
-16	-17	2. Bus. Ad.	-39 down	-30 -38	-22 -29	-15 -21	-8 -14	-1 -7	≠8 0	≠17 ≠9	≠18 up
-38	-35	3. Pub. Ser. Eng.	-121 down	-78 -120	-53 -77	-31 -52	-17 -30	-3 -16	≠10 -2	≠19 ≠11	≠20 up
0	- 7	4. Mech. Eng.	-38 down	-29 -37	-19 -28	0 -18	≠17 ≠1	≠30 ≠18	≠40 ≠31	≠44 ≠41	≠45 up
- 6	- 7	5. Elec. Eng.	-28 down	-22 -27	-16 -21	-1 -15	≠15 0	≠24 ≠16	≠33 ≠25	≠39 ≠34	≠40 up
- 6	-10	6. Civil Eng.	-28 down	-20 -27	-15 -19	-7 -14	≠4 -6	≠11 ≠5	≠16 ≠12	≠23 ≠17	≠24 up
-19	-16	7. Arch.	-62 down	-49 -61	-39 -48	-29 -38	-20 -28	-13 -19	-7 -12	≠3 -6	≠4 up
-19	-17	8. Geol.	-62 down	-49 -61	-38 -48	-22 -37	-8 -21	≠8 -7	≠20 ≠9	≠29 ≠21	≠30 up
- 5	0	9. Chem.	-30 down	-27 -29	-20 -26	-11 -19	≠4 -10	≠20 ≠5	≠29 ≠21	≠33 ≠30	≠34 up
-10	-28	10. Physics	-77 down	-65 -76	-53 -64	-34 -52	-16 -33	≠2 -15	X ≠15 ≠3	≠24 ≠16	≠25 up
-22	-25	11. Math.	-103 down	-76 -102	-54 -75	-38 -53	-21 -37	-9 -20	0 -8	≠10 ≠1	≠11 up
- 9	- 3	12. Biol. Sci.	-29 down	-25 -28	-20 -24	-15 -19	-6 -14	X ≠6 -5	≠13 ≠7	≠22 ≠14	≠23 up
-16	-14	13. Agri.	-32 down	-24 -31	-17 -23	-8 -16	≠3 -7	≠17 ≠4	≠27 ≠18	≠40 ≠28	≠41 up
- 3	- 3	14. Home Ec.	-15 down	-9 -14	-5 -8	-1 -4	≠5 0	≠9 ≠6	≠13 ≠10	≠17 ≠14	≠18 up
0	- 1	15. Fine Arts	-31 down	-24 -30	-20 -23	-16 -19	-11 -15	-7 -10	≠4 -6	≠16 ≠5	≠17 up
≠16	≠19	16. Engl.	-42 down	-31 -41	-24 -30	-12 -23	≠2 -11	≠16 ≠3	X ≠28 ≠17	≠39 ≠29	≠40 up
≠ 9	≠ 8	17. Hist.	-48 down	-32 -47	-24 -31	-16 -23	-5 -15	≠5 -4	≠13 ≠6	≠20 ≠14	≠21 up
- 9	- 8	18. Journ.	-23 down	-19 -22	-16 -18	-13 -15	-8 -12	-1 -7	≠5 0	≠9 ≠6	≠10 up
≠ 4	≠ 3	19. Lang.	-52 down	-41 -51	-33 -40	-25 -32	-15 -24	-5 -14	≠3 -4	≠13 ≠4	X ≠14 up
≠ 1	- 6	20. Speech	-86 down	-65 -85	-52 -64	-40 -51	-23 -39	-11 -22	0 -10	≠14 ≠1	X ≠15 up
- 2	- 2	21. Soc.	-33 down	-26 -32	-20 -25	-13 -19	-4 -12	≠4 -3	≠9 ≠5	≠16 ≠10	≠17 up
≠ 1	- 1	22. Psych.	-24 down	-20 -23	-16 -19	-10 -15	-3 -9	≠5 -2	≠13 ≠6	≠19 ≠14	≠20 up
≠ 1	≠ 3	23. Sec. Ed.	-15 down	-11 -14	-9 -10	-7 -8	-2 -6	≠7 -1	≠12 ≠8	≠16 ≠13	≠17 up
- 4	- 4	24. Elem. Ed.	-25 down	-18 -24	-13 -17	-6 -12	≠3 -5	≠9 ≠4	≠15 ≠10	≠22 ≠16	≠23 up
≠ 1	- 5	25. Phys. Ed.	-40 down	-34 -39	-25 -33	-15 -24	-6 -14	-1 -5	≠6 0	X ≠12 ≠7	≠13 up
- 9	- 6	26. Milit. Sci.	-11 down	-6 -10	0 -5	≠5 ≠1	≠10 ≠6	≠15 ≠11	≠18 ≠16	≠21 ≠19	≠22 up
≠ 5	≠ 5	27. Music	-28 down	-21 -27	-17 -20	-13 -16	-8 -12	-4 -7	≠2 -3	≠9 ≠3	≠10 up
-28	-29	28. Relig.	-140 down	-110 -139	-84 -109	-60 -83	-40 -59	-16 -39	-1 -15	≠17 0	≠18 up

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: PSYCHOLOGY N: 9 SEX: 7 males, 2 females

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	Mean	SCALED SCORES:	1	2	3	4	5	6	7	8	9
- 7	- 8	1. Commer. Arts	-19 down -18	-15 -14	-10 -9	-4 -3	≠2 ≠3	≠6 ≠7	≠9 ≠10	≠14	≠15 up
-10	-11	2. Bus. Ad.	-39 down -38	-30 -29	-22 -21	-15 -14	-8 -7	-1 0	≠8 ≠9	≠17	≠18 up
-24	-28	3. Pub. Ser. Eng.	-121 down -120	-78 -77	-53 -52	-31 -30	-17 -16	-3 -2	≠10 ≠11	≠19	≠20 up
-27	-15	4. Mech. Eng.	-38 down -37	-29 -28	-19 -18	0 ≠1	≠17 ≠18	≠30 ≠31	≠40 ≠41	≠44	≠45 up
-18	- 9	5. Elec. Eng.	-28 down -27	-22 -21	-16 -15	-1 0	≠15 ≠16	≠24 ≠25	≠33 ≠34	≠39	≠40 up
-17	-12	6. Civil Eng.	-28 down -27	-20 -19	-15 -14	-7 -6	≠4 ≠5	≠11 ≠12	≠16 ≠17	≠23	≠24 up
-20	-19	7. Arch.	-62 down -61	-49 -48	-39 -38	-29 -28	-20 -19	-13 -12	-7 -6	≠3	≠4 up
-23	-14	8. Geol.	-62 down -61	-49 -48	-38 -37	-22 -21	-8 -7	≠8 ≠9	≠20 ≠21	≠29	≠30 up
-14	- 5	9. Chem.	-30 down -29	-27 -26	-20 -19	-11 -10	≠4 ≠5	≠20 ≠21	≠29 ≠30	≠33	≠34 up
-37	-19	10. Phys-ics	-77 down -76	-65 -64	-53 -52	-34 -33	-16 -15	≠2 ≠3	≠15 ≠16	≠24	≠25 up
-16	-20	11. Math.	-103 down -102	-76 -75	-54 -53	-38 -37	-21 -20	-9 -8	0 ≠1	≠10	≠11 up
≠3	≠2	12. Biol. Sci.	-29 down -28	-25 -24	-20 -19	-15 -14	-6 -5	≠6 ≠7	≠13 ≠14	≠22	≠23 up
-16	-14	13. Agri.	-32 down -31	-24 -23	-17 -16	-8 -7	≠3 ≠4	≠17 ≠18	≠27 ≠28	≠40	≠41 up
- 2	- 1	14. Home Ec.	-15 down -14	-9 -8	-5 -4	-1 0	≠5 ≠6	≠9 ≠10	≠13 ≠14	≠17	≠18 up
- 6	- 8	15. Fine Arts	-31 down -30	-24 -23	-20 -19	-16 -15	-11 -10	-7 -6 X	≠4 ≠5	≠16	≠17 up
≠15	≠ 9	16. Engl.	-42 down -41	-31 -30	-24 -23	-12 -11	≠2 ≠3	≠16 ≠17	≠28 ≠29	≠39	≠40 up
- 1	≠ 3	17. Hist.	-48 down -47	-32 -31	-24 -23	-16 -15	-5 -4	≠5 ≠6	≠13 ≠14	≠20	≠21 up
- 8	- 7	18. Journ.	-23 down -22	-19 -18	-16 -15	-13 -12	-8 -7	-1 0	≠5 ≠6	≠9	≠10 up
≠ 1	- 2	19. Lang.	-52 down -51	-41 -40	-33 -32	-25 -24	-15 -14	-5 -4	≠3 ≠4	≠13	≠14 up
-10	- 6	20. Speech	-86 down -85	-65 -64	-52 -51	-40 -39	-23 -22	-11 -10	0 ≠1	≠14	≠15 up
≠13	≠14	21. Soc.	-33 down -32	-26 -25	-20 -19	-13 -12	-4 -3	≠4 ≠5	≠9 ≠10	≠16	≠17 up
≠19	≠19	22. Psych.	-24 down -23	-20 -19	-16 -15	-10 -9	-3 -2	≠5 ≠6	≠13 ≠14	≠19	≠20 up
≠ 5	≠ 5	23. Sec. Ed.	-15 down -14	-11 -10	-9 -8	-7 -6	-2 -1	≠7 ≠8	≠12 ≠13	≠16	≠17 up
≠ 1	0	24. Elem. Ed.	-25 down -24	-18 -17	-13 -12	-6 -5	≠3 ≠4	≠9 ≠10	≠15 ≠16	≠22	≠23 up
- 4	- 2	25. Phys. Ed.	-40 down -39	-34 -33	-25 -24	-15 -14	-6 -5	-1 0	≠6 ≠7	≠12	≠13 up
- 5	- 5	26. Milit. Sci.	-11 down -10	-6 -5	0 ≠1	≠5 ≠6	≠10 ≠11	≠15 ≠16	≠18 ≠19	≠21	≠22 up
- 4	- 4	27. Music	-28 down -27	-21 -20	-17 -16	-13 -12	-8 -7	-4 -3	≠2 ≠3	≠9	≠10 up
-28	-33	28. Relig.	-140 down -139	-110 -109	-84 -83	-60 -59	-40 -39	-16 -15	-1 0	≠17	≠18 up

THE GREGORY ACADEMIC INTEREST PROFILE SHEET

DEPARTMENT: SOCIOLOGY N: 5 SEX: 4 males, 1 female

LEGEND: * = Mean scores; X = Median scores when different from mean.

RAW SCORES Median	RAW SCORES Mean		SCALED SCORES: 1	2	3	4	5	6	7	8	9
- 8	- 7	1. Commer. Arts	-19 down	-15 -18	-10 -14	-4 -9	/2 -3	/6 /3	/9 /7	/14 /10	/15 up
/ 5	/ 3	2. Bus. Ad.	-39 down	-30 -38	-22 -29	-15 -21	-8 -14	-1 -7	/8 0	/17 /9	/18 up
- 2	-13	3. Pub. Ser. Eng.	-121 down	-78 -120	-53 -77	-31 -52	-17 -30	-3 -16	/10 -2	/19 /11	/20 up
-13	-18	4. Mech. Eng.	-38 down	-29 -37	-19 -28	0 -18	/17 /1	/30 /18	/40 /31	/44 /41	/45 up
-16	-18	5. Elec. Eng.	-28 down	-22 -27	-16 -21	-1 -15	/15 0	/24 /16	/33 /25	/39 /34	/40 up
-14	-12	6. Civil Eng.	-28 down	-20 -27	-15 -19	-7 -14	/4 -6	/11 /5	/16 /12	/23 /17	/24 up
- 5	-16	7. Arch.	-62 down	-49 -61	-39 -48	-29 -38	-20 -28	-13 -19	-7 -12	/3 -6	/4 up
- 6	-19	8. Geol.	-62 down	-49 -61	-38 -48	-22 -37	-8 -21	/8 X -7	/20 /9	/29 /21	/30 up
- 6	-10	9. Chem.	-30 down	-27 -29	-20 -26	-11 -19	/4 -10	/20 /5	/29 /21	/33 /30	/34 up
-33	-39	10. Phys-ics	-77 down	-65 -76	-53 -64	-34 -52	-16 X -33	/2 -15	/15 /3	/24 /16	/25 up
- 9	-24	11. Math.	-103 down	-76 -102	-54 -75	-38 -53	-21 -37	-9 X -20	0 -8	/10 /1	/11 up
-10	- 9	12. Biol. Sci.	-29 down	-25 -28	-20 -24	-15 -19	-6 -14	/6 -5	/13 /7	/22 /14	/23 up
- 3	-15	13. Agri.	-32 down	-24 -31	-17 -23	-8 -16	/3 X -7	/17 /4	/27 /18	/40 /28	/41 up
- 4	- 2	14. Home Ec.	-15 down	-9 -14	-5 -8	-1 -4	/5 0	/9 /6	/13 /10	/17 /14	/18 up
- 4	- 3	15. Fine Arts	-31 down	-24 -30	-20 -23	-16 -19	-11 -15	-7 -10	/4 -6	/16 /5	/17 up
/14	/18	16. Engl.	-42 down	-31 -41	-24 -30	-12 -23	/2 -11	/16 X /3	/28 /17	/39 /29	/40 up
/ 4	/11	17. Hist.	-48 down	-32 -47	-24 -31	-16 -23	-5 -15	/5 X -4	/13 /6	/20 /14	/21 up
/ 4	/ 1	18. Journ.	-23 down	-19 -22	-16 -18	-13 -15	-8 -12	-1 -7	/5 0	/9 /6	/10 up
-12	- 2	19. Lang.	-52 down	-41 -51	-33 -40	-25 -32	-15 -24	-5 X -14	/3 -4	/13 /4	/14 up
- 8	- 1	20. Speech	-86 down	-65 -85	-52 -64	-40 -51	-23 -39	-11 -22	0 -10	/14 /1	/15 up
/18	/15	21. Soc.	-33 down	-26 -32	-20 -25	-13 -19	-4 -12	/4 -3	/9 /5	/16 /10	/17 X up
/15	/15	22. Psych.	-24 down	-20 -23	-16 -19	-10 -15	-3 -9	/5 -2	/13 /6	/19 /14	/20 up
/ 2	/ 4	23. Sec. Ed.	-15 down	-11 -14	-9 -10	-7 -8	-2 -6	/7 -1	/12 /8	/16 /13	/17 up
- 1	0	24. Elem. Ed.	-25 down	-18 -24	-13 -17	-6 -12	/3 -5	/9 /4	/15 /10	/22 /16	/23 up
- 6	- 4	25. Phys. Ed.	-40 down	-34 -39	-25 -33	-15 -24	-6 X -14	-1 -5	/6 0	/12 /7	/13 up
- 5	- 4	26. Milit. Sci.	-11 down	-6 -10	0 -5	/5 /1	/10 /6	/15 /11	/18 /16	/21 /19	/22 up
- 7	- 7	27. Music	-28 down	-21 -27	-17 -20	-13 -16	-8 -12	-4 -7	/2 -3	/9 /3	/10 up
-42	-27	28. Relig.	-140 down	-110 -139	-84 -109	-60 -83	-40 -59	-16 -39	-1 -15	/17 0	/18 up

IMPORTANT!

Special care should be taken to prevent loss or damage of this volume. If lost or damaged, it must be paid for at the current rate of typing.

1 plate 4/8/59