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CAMPUS ENVIRONMENT

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CHAPTER I

INTRODUCTION

With the increase of student unrest on college campuses has come the attempt to include student participation in committees and decision-making structures of the institutions. Along with increased involvement of students in the governance of the community of scholars has come an intensified effort to determine the sources of discontent among students and other members of the community. Many of the problems projected by students are problems of young people in general and are not unique to the academic community. However, problems of malcontent frequently have their bases in the environment of the individual. Therefore, greater emphasis is being placed on the evaluation of the higher education environment as a possible solution of student confrontations. Student appraisal of the campus environment is a legitimate source of data in evaluating the campus environment. It is a technique which is employed with increasingly regularity. These student assessments can be a very meaningful part of the total evaluation procedure. As one researcher states, ". . . this method is used to obtain a description of the college from the students, who presumably know what the environment is

like because they live in it and are part of it."[1]

The student appraisal technique is built on the assumption that the student will respond to a questionnaire with an opinion that reflects his views and experiences with the campus environment. Therefore, in accepting his judgement, interpretation, or opinion, the investigator should be informed of the many biases in them caused by the perceptual phenomenology of the individual. Likewise, if the student is to respond to the broad area of the campus environment, the interpreter must be realistic in recognizing that such assessments are limited to the student's range of knowledge and contacts. Since environmental assessment generally is based on a composite score obtained by compiling the views of the participants and not by isolating scores of single participants, the selection of the participants could have a substantial impact on the results or picture portrayed as "the campus environment." This researcher is hypothesizing that the location of the student in the environment will affect the opinion when viewing the environment as a whole. Therefore, when the purpose of the environmental evaluation is to assess the total campus climate, the biases present in the responses of the sample should be understood and weighed properly.

Due to the specialization of degree programs in undergraduate schools and less emphasis on general education, the student body as a whole has a limited exposure to the total campus environment. Because fields of study differ in their purposes, structure, and content,

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[1]C. Robert Pace, The College and University Environment Scales, Technical Manual (2d ed.; Princeton: Educational Testing Service, 1969), p.9.

it is not unlikely that they create different opinions among students of different campuses as to the total environmental atmosphere of the educational institution. It follows that an appraisal of the college environment through student opinion would be a narrow biased view depending on the balance of the student population sampled by the investigator. A certain degree of sophistication of the subjects' responses can be inferred from their feelings of educational attainment. The attainment of educational objectives by the students of an institution is an integral part of the educational experience.

The desire of an educational institution should not simply be to provide an atmosphere that can be appraised highly on the superficial level, but an atmosphere that is acceptable to its inhabitants while they are making satisfactory progress toward the stated objectives of the institution. Pace and Stern state that "implicit press and explicit objectives should reinforce one another, for an institution should operate in reality the way it means to operate in theory."[2] In other words, Pace and Stern are advocating that the educational institution create an atmosphere that is conducive to the education of its clientele and is still commensurate with the goals of the organization. To propagate any other situation is to advocate a type of "institutional schizophrenia." Through the analysis of the student's responses to an Educational Objective Attainment Questionnaire and a campus environment scale, the investigator can determine the amount of congruence being experienced by the student body. One of the major purposes of

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[2]C. Robert Pace and George G. Stern, "An Approach to the Measurement of Psychological Characteristics of College Environments," Journal of Educational Psychology, XLIX, No. 5 (1958), p. 276.

this study was to make such an analysis.

Statement of the Problem

The purpose of this study was to identify, analyze, and interpret data on subjects from six state colleges which would provide possible answers concerning the effects of college, field of study, sex, and classification on students' opinions of their college campus environments, and which would reveal any existing relationships between the perceived campus environment and the students' attainment of educational objectives. The problem of this study was to determine the effects of college, field of study, sex, and classification on students' opinions of their college campus environments, and to determine the level of relationship between measures of the campus environment and accomplishment of educational objectives.

Definition of Terms

In any research there are certain terms used by the investigator which do not have a consensual definition. This is especially true of descriptive adjectives. All such terms should be clarified to avoid a misunderstanding on the part of the reader. For the purpose of this study, the following terms and their definitions are given:

Campus Environment: Those components that make up the educational institution's atmosphere including facilities, rules and regulations, personnel (both permanent and temporary), curricular and extracurricular activities, and formal and informal events.

Campus: The space or ground belonging to or enclosed by the buildings of a college or school.

Campus Environment Scale: An instrument used to derive a quantitative measure of campus environment. (The campus environment instrument used in this study is designed to measure students' opinions of six different domains of the campus environment. The domains measured by the CES are: academic environment, facilities and services, cultural climate, communications, community relationships, and ethical and moral values.)

Educational Objectives: The broad goals of education toward which progress is made as a result of the student's total experience in the academic setting. (The educational objectives used in this study were adapted from the College Experience Questionnaire developed by Pace.[3])

Attainment Scores of Educational Objectives: The numerical measures obtained by converting scaled responses to quantitative figures for the twelve educational objectives.

Major Field of Study: An arbitrarily defined program or block of studies in which a student may strive toward a degree. All degree programs offered at the colleges were blocked into one of five fields: Science, Social Studies, Applied Fields, Education, and Humanities.

Classification: A manner of determining the number of years a student has spent in college. In this study, Sophomores were second-year students, Juniors were third-year students, and Seniors were fourth-year students.

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[3]C. Robert Pace, The Influence of Academic and Student Subcultures in College and University Environments, Cooperative Research Project No. 1083 (Los Angeles: University of California, 1964), p. 249.

ACT Scores: Scores recorded on the American College Testing instrument which are used as predictors of college success. This instrument yields four subscores and a composite score.

GPA: The cumulative Grade Point Average of participating students based on a four point system. The GPA's used in this study were composed of the grades from all courses attempted by the student through the fall semester of 1970.

Opinion: Expression of judgement, impression, or interpretation.

The Hypotheses

In accordance with the problem and purpose of this study, the following hypotheses were formulated:

(1) There are no statistically significant differences among CES mean raw scores of students by college, major field of study, sex, and classification.

(2) There are no statistically significant relationships between scores on the CES and attainment of educational objectives, ACT scores, and cumulative grade point average of students by major field of study, classification, and sex.

Treatment of the Data

The statistic appropriate for testing the first hypothesis was an analysis of variance (ANOVA)[4] since it is especially suited to determining the differences among the means of several groups at the same time. The statistical test necessary for testing the second

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[4]J. P. Guilford, Fundamental Statistics in Psychology and Education (New York: McGraw-Hill, 1965), pp. 168-175.

hypothesis was a Pearson Product-Moment Correlation ("r").[5] This technique is especially suited to determining the relationship between two or more variables.

Limitations

The nature of the problem called for descriptive or ex post facto type of research. In this type of research, the independent variables (those factors affecting the measure being taken) have already occurred and cannot be manipulated by the experimenter.[6] This was a limitation in that inferences about the results must be approached with caution or they can quickly diminish into pure conjecture. A second limitation was the defined population. Since samples were drawn only from six Oklahoma state colleges, generalization of results cannot be extended beyond the parent population. A third limitation was the size of the sample. Although a random stratified sample of three hundred students from each college was selected and invited to participate, a smaller sample was actually tested.

Assumptions

Any research project is based on a certain number and kind of assumptions. This study was based upon the following underlying assumptions:

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[5]N. M. Downie and R. W. Heath, Basic Statistical Methods (2d ed.; New York: Harper & Row, 1965), pp. 78-94.

[6]Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1964), p. 361.

(1) The educational objectives used by the researcher in Part II of the instrument are in general agreement with the educational objectives of the six state colleges in Oklahoma. Through comparison of the educational objective statements with functions of institutions reported in Goals For Oklahoma Higher Education[7], the six institutions in this study were recognized as having these common general objectives.

(2) The randomly chosen subjects from each of the colleges are an accurate and adequate representation of the student opinions of that campus, and the results of the sample can be generalized to the entire population.

(3) The responses of the participants represent their "true" judgements, impressions, and interpretations.

Need for the Study

With the current unrest on the American college campus, administrators, faculty, and students are searching for the essential causes and means of rectification for their differences. If the differences stem from a lack of congruence between the learning environment and the objectives of the learning center, efforts must be made to bring the means and the ends into harmony. The students' view of the campus environment along with their assessment of attainment of educational objectives could give keen insight into the amount of congruence between the theory and practice of educational institutions.

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[7]Oklahoma State Regents for Higher Education, Goals for Oklahoma Higher Education, prepared by John J. Coffelt, Dan S. Hobbs, and A. J. Brumbaugh (Report 8; State Capitol, Oklahoma City: Oklahoma State Regents for Higher Education, 1966), p. 1.

However, such measures can only be of value if they are properly recorded, carefully analyzed, and adequately interpreted. Otherwise, subjectivity of the measures would be so high that they would be worthless. Since it is an impossibility to remove all subjectivity from psychological, sociological, and biological measures, it is necessary for the interpreter of such scores to be aware of the biases which are included within these measures. If the subgroups formed by intent of the institution of a particular campus have distinct opinions, the elimination of this group from a campus opinion sample would give a false appraisal of the campus environment. Since the department or major field of study has a principle attachment for each student, a subgroup of such students should have an important impact on the environmental aspect of campus.

It was anticipated that the study would be especially useful to the colleges and universities of Oklahoma since it was the first to explore the higher educational environmental opinion of such a general representation of students enrolled in these institutions. Prior to this study, higher education institutions in Oklahoma had been represented in environmental studies only minimally. Two institutions, Southeastern State College at Durant and Oklahoma Baptist University at Shawnee, were included in the colleges used to establish the norms for the CUES in 1965. Holloway[8] administered the CUES to students at Panhandle State College at Goodwell and Langston University at Langston.

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[8]Ernest Leon Holloway, "Environmental Perceptions of Unsuccessful Students on Selected College Campuses" (unpublished Ed.D. dissertation, University of Oklahoma, Norman, 1970).

The present study, however, was the first to explore the higher education environment of such a large representation of Oklahoma college students. Approximately one-tenth of the enrollment of the six state colleges was invited to participate in the study. Such information is appropriately the focus of research. For example, the Oklahoma State Regents for Higher Education encourage the higher education community to do so:

> . . . as societal needs change, institutions must also change; else, they fossilize and become stumbling blocks in the path of social evolution. Whenever old and encrusted institutions fail to respond to current needs, they are usually by-passed in favor of new and more streamlined institutions. It is, therefore, vital that established colleges and universities attune themselves to the current order, rather than continue to serve the needs of a society long since departed.[9]

The present study was an attempt to examine the viability of student based descriptions of campus environment. While the students' assessment of the campus environment represents the views of but one element of the campus community, it is this element that the college is structured to serve. Decision makers in colleges and universities need to consider such measures.

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[9]Oklahoma State Regents for Higher Education, Goals for Oklahoma Higher Education, p. 1.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of the following presentation is to present a review of related literature to serve as a theoretical background for this study. Research on the college student is a rather well established field, but studies of the environment of the institution that these students attend is a relatively recent subject of investigation. Types of studies reviewed which were relevant to the problem of this investigation were as follows: (1) studies involving the development of instruments for student assessment of the college environment, (2) studies employing the use of these instruments to assess college environments, (3) studies of higher education subcultures or groups within the institution, and (4) studies involving students' views on educational objectives.

Environment Assessment Instruments

Since assessment of campus environment through student preception is a relatively new area, few instruments exist. The best known are Pace and Stern's College Characteristic Index (CCI), Pace's College Characteristics Analysis (CCA) and College and University Environment Scales (CUES AND CUES II), and Pervin's Transactional Analysis of Personality and Environment Questionnaire (TAPE). The Central States Colleges and Universities' Campus Environment Study (CES) instrument

is the newest of the student opinion assessment instruments. This instrument was the one used in the present study.

H. A. Murray[1] developed the individual-need, environmental-press concept in 1938. Individuals were seen as having characteristic needs, and the strength of relationships of these needs characterized the personality. In corollary fashion, the environment was seen as having potentials for satisfying or frustrating these needs. These potentials were called "environmental press." The model for studying behavior was the interaction between personality needs and environmental press.

In 1956, G. G. Stern developed a personality test called the Activities Index which provided a personal need scale. In 1957, Pace and Stern[2] collaborated to develop the College Characteristics Index (CCI), which was intended to supply the environmental-press counterpart to the personality need as described in the Activities Index. By the summer of 1959 results from Pace and Stern's instrument were available from about fifty colleges. From this number a tentative norm group of thirty-two colleges were used as a base for developing standard scores for the thirty CCI scales.

Pace[3] departed from the need-press parallelism in the development of the College Characteristics Analysis (CCA) even though he used items

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[1]Henry A. Murray, Explorations in Personality (New York: Oxford University Press, 1938).

[2]C. Robert Pace and George G. Stern, "An Approach to the Measurement of Psychological Characteristics of College Environments," Journal of Educational Psychology, XLIL, No. 5 (1958), p. 270.

[3]C. Robert Pace, The Influence of Academic and Student Subcultures in College and University Environments, Cooperative Research Project No. 1083 (Los Angeles: University of California, 1964).

from the CCI. Through his concern for lack of systematic coverage of content categories in the CCI, the CCA was developed by Pace to insure equal item representation to each of the three areas of educational content--administration, academic, and student, as well as four broad dimensions of the environment: (1) an intellectual, humanistic, esthetic emphasis, (2) a friendly, group-welfare emphasis, (3) an emphasis toward independency and scientism, and (4) a practical, interpersonal status emphasis.

Pace[4] developed the College and University Environment Scale (CUES) as a device for obtaining a description of the college from the students who presumably knew what the environment was like since they lived in it and were part of it. The CUES consisted of 150 items from the CCI, selected because they successfully discriminated between environments. The scales that comprise CUES were determined by differences among educational environments and not by some presumed parallelism between student needs and environmental demands. The five basic scales are practicality, community, awareness, propriety, and scholarship. The second edition of CUES included two additional subscales--campus morale and quality of teaching and faculty-student relationships.

Pervin's[5] Transactional Analysis of Personality and Environment (TAPE), was developed as an instrument which used the Semantic Differential technique to study the various interactions and transactions that

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[4]C. Robert Pace, College and University Environment Scales, Technical Manual (2d ed.; Princeton: Educational Testing Service, 1969), p. 9.

[5]Lawrence A. Pervin, "A Twenty-College Study of Student x College Interaction Using TAPE (Transactional Analysis of Personality and Environment): Rationale, Reliability, and Validity," Journal of Educational Psychology, LXVIII, No. 5 (1967), p. 291.

occur within a college environment, and their relevance to institutional strain and student satisfaction. The TAPE represents the first attempt since the AI and the CCI at determining "individual x environment" interaction in order to establish the most compatible condition for each. This was the second approach in higher education to make an application of Murray's need-press concept.

The newest of the environment assessment instruments is the Campus Environment Study[6] (CES) instrument developed by the Central States Colleges and Universities' cooperative research group. The purpose of this instrument is to identify strengths and weaknesses of a given institution on six domains of campus environment. These domains are as follows: (1) academic environment, (2) facilities and services, (3) cultural climate, (4) communication, (5) community relationships, and (6) moral and ethical values. The CES provides a score for each subscale but a composite is not computed. Norms were established based on the scores of 13,500 students from 21 colleges.

Student Perception of Campus Environment

Pace[7] has supplied the majority of research on student perception of campus environment. Through studies using the CUES he has been able to identify opinions which are generally associated with various types of institutions such as: high prestige, nonsectarian, highly

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[6]Campus Environment Study, Study 32, Central State Colleges and Universities, 1968. (Mimeographed.)

[7]C. Robert Pace, "Perspective on the Student and His College." The College and the Student, ed. Lawrence E. Dennis and Joseph F. Kauffman (Washington, D. C.: American Council on Education, 1966), pp. 76-100.

selective liberal arts colleges; other liberal arts colleges, both nonsectarian and denominational; strongly denominational colleges; universities, both public and private; state colleges, including teachers colleges; and public junior colleges.

Studies of Subcultures or Subgroups

Stern[8] found at Syracuse that for the most part students seemed to describe the environment in very similar fashion regardless of what school, college, or major field they happened to be in within the university. In researching the influence of academic and student subcultures in college and university environments, Pace[9] reported the following conclusions: (1) There are academic subgroups whose environments differ significantly from that of the college as a whole; the most deviant subgroups being nursing, business, sciences, and education; groups falling within the humanities-social sciences culture show very few differences from the college as a whole. (2) There are academic subgroups whose members differ significantly from the general student body in various personality characteristics. (3) There are significant differences among subgroups and the college as a whole in the ratings of progress toward various educational objectives. (4) There is a positive relationship between environmental press and the attainment of objectives relevant thereto; and, it is the total press of the college

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[8]George G. Stern, "Student Values and Their Relationship to the College Environment," Research on College Students, ed. Hall T. Sprague (Boulder, Colorado: Western Interstate Commission for Higher Education, 1960), pp. 67-104.

[9]Pace, The Influence of Academic and Student Subcultures in College and University Environments, p. 202.

rather than any one aspect of it that is more closely associated with relevant attainment. In studying the differences among the academic groups of the nine institutions included in the study, Pace found them to be as different as the institutions themselves. He found the engineering group to be the most deviant group on educational objective attainment, and the educational objectives having the most divergent attainment ratings were understanding science and technology, vocational training, preparation for further scholarly work, and developing an appreciation of art, music, and literature.

Herrscher[10] attempted to determine the differences among selected peer and academic groups on the campus of UCLA. Although Herrscher patterned his research design after that of Pace, the primary difference between these two studies is that Pace investigated a number of institutions while Herrscher included seven academic groups: science, social sciences, humanities, engineering, business administration, education, and fine arts from the same institution. Herrscher, like Pace, used the College Characteristics Analysis to assess the environment. He reported the following findings: (1) Science scored the institution low on community and awareness and the institution high on the practical dimension; (2) Social Sciences saw the environment very much like the cross section of the student body--"more aware" and "less practical"; (3) Engineering perceived the environment as being less concerned with matters cultural and political and more practical than students in general; (4) Business Administration reported a high practibility

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[10]Barton Herrscher, "Patterns of Attainment and the Environmental Press of UCLA Student Groups" (unpublished Ed. D. dissertation, University of California, Los Angeles, 1967).

press; and (5) Fine Arts reported the environment press similar to students in general. Most deviant from the cross-section sample were Engineering and Science and the least deviant were Humanities and Social Science. On estimating progress toward the attainment of educational objectives, Herrscher found that the academic group differed from the cross section on 22 per cent of the measures. There were great similarities among sciences, social sciences, humanities, and fine arts and the cross section of the campus attainment of the educational objectives. But, no correlation was found among the cross section and engineering, business administration, and education. Pace and Herrscher both reported grades to be unrelated to environmental press.

McPeek,[11] using the CUES in a study at Millikin University, found that returning students, faculty, and administrators had strikingly similar perceptions of the "real" and "ideal" environment of the University. New students and faculty members also agreed on the real and ideal environments. Perceptions of male and female students differed, and those of the respective classes differed. However, the perceptions of students classified by academic major differed greatly. ($P < .01$).

A study by Reiner and Robinson[12] at a two-year, women's, liberal arts college found that CUES scores differed significantly among samples of several definable groups associated in some way with the college. The

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[11]Beth L. McPeek, "The University as Perceived by its Subcultures: An Experimental Study," Journal of the National Association of Women Deans and Counselors, XXX, No. 3 (1967), pp. 129-132.

[12]John R. Reiner and Donald W. Robinson, "Perceptions of College Environment and Continguity with College Environment," The Journal of Higher Education, XLI, No. 2 (February, 1970), pp. 130-139.

results indicated that the more distant a group was from the college environment the greater the probability of a positively inflated perception of the environment.

In 1968, the Central States Colleges and Universities sponsored a cooperative research project labeled the Campus Environment Study. The CES inventory was administered to 13,500 students in 21 institutions. Norms were developed on the first administration of the instrument. Each participating institution was provided the results of the total responses of all students on each item. Results of scores of all institutions revealed certain patterns. Invariably, Freshmen reacted more favorably than Sophomores, and Sophomores reacted more favorably than Juniors. Seniors' opinions of their campus environment, however, tended to be slightly more favorably than those of Juniors.

Students' Views on Educational Objectives

The majority of studies reported in the literature deal with students placing a degree of importance or value on the goals of higher education rather than an appraisal of degree of attainment of any of the stated goals. The studies of Pace and Herrscher are exceptions to this rule. In longitudinal studies it was common to see shifts in students' judgements during college concerning the importance of various educational goals.[13] It was also common to find an increase in value of the general education objectives and decrease in importance in goals related to vocational and interpersonal skills.

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[13]R. K. Goldsen, M. Rosenberg, R. M. Williams, Jr., and E. A. Suchman, What College Students Think (Princeton: Van Nostrand, 1960), p. 251.

CHAPTER III

RESEARCH DESIGN AND TESTING PROCEDURES

The testing of the stated hypotheses of this study required the selection of appropriate institutions for the investigation, selection of a random stratified sample within each college included in the study, and acquisition of appropriate information on the subjects. Each subject was administered two instruments: one to assess the campus environment, and the other to assess attainment of educational objectives. Additional information for each subject, sex, cumulative grade point average, ACT scores, field of study, and classification, was also required in the testing of the hypotheses. Statistical procedures required to test the hypotheses were the analysis of variance, the Duncan's Range Test when appropriate, and the Pearson Product-Moment Correlation.

The Instruments

The Campus Environment Study (CES) instrument was selected to measure the students' opinion of the campus environment. (See Appendix B). This instrument was chosen primarily because: (1) of the particular domains of a campus that it measures and (2) it asks all respondents to evaluate the campus as an entity and not just from a particular group perspective, such as the student's circle of friends, clubs or organizations, or academic field of study. The length of the

instrument, 150 items, is appealing to both the respondent and the examiner. The instrument purports to identify the strengths and weaknesses of six domains of a college environment. Each of these domains consists of 25 items stated with varying degrees of positiveness. The CES employs the Likert five-response technique for statement of reaction to a given stimulus. The five choice points represent varying degrees of accomplishment or feelings about the statement presented. The instrument was developed by interinstitutional researchers on institutions similar to those included in this study. Also, the instrument was normed on institutions purportedly similar to those in the sample.

The six domains identified by the Central States Colleges and Universities' Campus Environment Study Group are as follows: (1) academic environment, (2) facilities and services, (3) cultural climate, (4) communication, (5) community relations, and (6) moral and ethical values. The respondents are asked to react to each of the 150 items on a five-point continum. The 150 items are placed consecutively by environmental domain with no headings to identify them.

The instrument possesses a reliability ranging from .82 for academic environment to .91 for cultural climate as determined by the Kuder-Richardson Formula 20. The concurrent validity ranges from .67 for the academic environment to .83 for the cultural climate.[1]

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[1]Dwain F. Peterson, "Items Sampling of Institutional Environments," (Mankato, Minnesota: Office of Institutional Research, Mankato State College, May 7, 1969). (Mimeographed.) p. 4.

To further examine the independence of the CES scales, a test of the intercorrelation of all the variables purportedly measured by the CES was performed on the sample of this study. Of the fifteen correlations, only the correlation of the subscales, moral and ethical values and community relations reported a significant relationship at $P < .05$. The results of the intercorrelations of the variables measured by the CES are reported in Table 1.

TABLE 1

INTERCORRELATIONS OF THE VARIABLES MEASURED BY THE CES SCORES OF THE SIX STATE COLLEGES

Variables	A.E.	F.S.	C.C.	Co.	C.R.	M.E.
Academic Environment	1.00					
Facilities and Services	.0260	1.00				
Cultural Climate	.1322	.0617	1.00			
Communi-cation	-.0417	.1021	.1410	1.00		
Community Relations	.0911	.1433	.0716	.1327	1.00	
Moral and Ethical Values	.1011	.1706	-.0946	.1923	.2115*	1.00

*$P < .05 = .1946$

Scores on the six domains were summed for each subject and treated as a composite in this study.

Educational Objective Attainment Instrument

The instrument used to assess attainment of educational objectives was an adaptation of the College Experience Questionnaire developed by Pace.[2] (See Appendix C). Twelve commonly stated objectives of higher education are expressed and the participant is asked to select one of the five available responses which best describes his degree of attainment of that objective. These responses were converted to a numerical framework for purposes of analysis. The values ranged from 1 to 5. A value of one indicating "a great extent" of attainment and five very little attainment. The educational objective statements were attached to the end of the Campus Environment Study instrument and labeled Part II in order to simplify administration and scoring. A subject's score on attainment was produced by summing values of the twelve statements. A high total score indicated very little attainment and low total score indicated a great extent of overall attainment.

A test of intercorrelation of the attainment scores of the sample on the twelve educational objectives was performed. The intercorrelation coefficients which resulted from the computations are reported in Table 2. A statistically significant relationship was found for eleven of the sixty-six correlations.

A high positive correlation was found between Educational Objective 1, "Acquiring a broad cultural and literary education," and Educational Objective 3, "Background and specialization for further

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[2]C. Robert Pace, The Influence of Academic and Student Subcultures in College and University Environments, Cooperative Research Project No. 1083 (Los Angeles: University of California, 1964), p. 249.

TABLE 2

INTERCORRELATION OF EDUCATIONAL OBJECTIVE STATEMENTS
BY SCORES OF STUDENTS FROM THE SIX STATE COLLEGES

E. O.	1	2	3	4	5	6	7	8	9	10	11	12
1												
2	-.03											
3	.26*	.02										
4	.42*	-.12	-.08									
5	.14	-.08	-.10	-.06								
6	.22*	.22*	.01	-.01	-.12							
7	.09	-.13	-.09	.12	.05	.03						
8	.01	-.03	-.13	-.23*	.12	.06	-.05					
9	-.04	-.06	.01	.06	-.11	.06	-.13	.02				
10	-.10	-.02	.18	-.12	-.23*	-.10	-.10	-.02	.11			
11	.03	-.02	.22*	-.11	-.17	-.12	.10	-.19*	-.12	-.05		
12	-.06	.05	.30*	.16	.09	.02	-.06	.06	-.40*	.21*	-.07	

*P $<$.05 = .1946

education in some professional, scientific, or scholarly field," and Educational Objective 4, "Understanding different philosophies, cultures, and ways of life." Significance at the P $<$.05 level was reported between Educational Objective 1 and 6, "Personal development--understanding one's abilities and limitations, interests, and standards of behavior."

Educational Objective 3, "Background and specialization for further education in some professional, scientific, or scholarly field," showed a correlation coefficient of P $<$.05 with Educational Objective 11, "Developing an understanding and appreciation of science and technology." Significance of a P $<$.05 level was reported between Educational Objective 3 and Educational Objective 12, "Developing skills in leisure time activities with carry-over value for later life."

A negative coefficient of P $<$.05 level was reported with Educational 4, "Understanding different philosophies, cultures, and ways of life, and Educational Objective 8, "Developing an ability to think critically and an understanding of the origin, nature, and limitations of knowledge." Since only eleven of the sixty-six correlations indicated a significant relationship, statements of educational objectives were considered to be independent and were measuring attainment of differing educational objectives.

Biographical Data and ACT Scores

The biographical data and the ACT scores necessary for testing the stated hypotheses were obtained from the personal records of the

participants and from the answer sheets used for recording responses to the two instruments. (See Appendix D.) The answer sheet was developed especially for this study by the investigator as a means of expediting the grading, scoring, and manipulation of the data.

Choice of Design

Choosing the proper statistical design for an experiment is one of the most important steps in the conduct of good experimentation.[3] The design chosen for this study was a multiple-group comparison study with repeated measures for each subject. The design was chosen primarily because of its ability to control external variances and to test the hypotheses stated.

Kerlinger[4] sees the research design as having two basic purposes: (1) to provide answers to research questions and (2) to control variance that could confound the experiment. In other words, it is through the design of the experiment that the research is made effective. Kerlinger further states:

> . . . How does design accomplish this? Research designs set up the framework for 'adequate' tests of the relations among variables. The design tells us, in a sense, what observations to make, how to make them, and how to analyze the quantitative representations of the observations. Strictly speaking, the design does not 'tell' us precisely what to do, but rather suggests the directions of observation-making procedures and analysis. An adequate design suggests, for example, how many observations should be made, and which variables are active variables and which are assigned. We can then act to manipulate the active variables and to dichotomize or trichotomize or otherwise categorize the assigned variables. A design

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[3] D. Campbell and J. Stanley, Experimental and Quasi-Experimental Designs (Chicago: Rand-McNally, 1963), p. 1.

[4] Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1964), p. 275.

> tells us what type of statistical analysis to use. Finally, an adequate design outlines possible conclusions to be drawn from the statistical analysis.[5]

By utilizing the design of this study, the investigator was able to sample students from the six state colleges, from all the disciplines from within the colleges and from three classifications. Also this design allowed the investigator to keep the invited number of participants to an appropriate size to test the problem.

Sampling

Samples were drawn randomly from each of the six Oklahoma state colleges--Central State College,[6] East Central State College, Northeastern State College, Northwestern State College, Southeastern State College, and Southwestern State College. As an initial activity, the researcher contacted the president of each of the six state colleges and requested permission to conduct the study at their institution. The six state colleges were selected because of the following similarities: (1) all six are public institutions and are controlled by the Board of Regents of Oklahoma Colleges; (2) the six colleges are viewed as serving the same function in the state system of higher education;[7] (3) admission is based on the same criteria;[8] (4) financial

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[5] Ibid., p. 276.

[6] Name changed to Central State University on April 13, 1971.

[7] Oklahoma State Regents for Higher Education, Goals for Oklahoma Higher Education, prepared by John J. Coffelt, Dan S. Hobbs, and A. J. Brumbaugh (Report 8; State Capitol, Oklahoma City: Oklahoma State Regents for Higher Education, 1966).

[8] College catalogue of each of the six colleges.

support from the Oklahoma State Regents for Higher Education is appropriated on the same formula;[9] and, (5) they are located within a limited geographic location. It is hypothesized that the environment of the six colleges will be very similar due indirectly to the above criteria.

The sample from each institution was stratified according to students majoring in each of five academic areas--science, social studies, applied fields, education, and humanities. All degree programs offered in the six state colleges were classified into one of the five academic areas. (See Appendix E for analysis of major fields of study by college.) This classification was determined by traditionally accepted associations of learning areas and the location of subject matter groupings within the institutions involved in the study. The sample was further stratified along classification--sophomore, junior, and senior. Freshmen were not included in the samples because of the limited time they have spent in the total environment and the academic-major group.[10] Table 3 illustrates the population of each of the institutions as stratified for this study. From each of the fifteen sub-populations of the six colleges, twenty students were randomly selected and invited to participate in the study. Each student was sent a letter asking his participation in the study and requesting his presence at a testing session to be

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[9]"Part III, Criteria for Determining Amounts Needed for the Various Functions of the Educational and General Operating Budget," Operating Budget Needs of the Oklahoma State System of Higher Education for the 1970-71 Fiscal Year (Oklahoma City: Oklahoma State Regents for Higher Education, January, 1970), p. 13.

[10]Research using CUES has reported that freshman report an inflated opinion of the campus environment. They have been reported to view any campus consistent with their opinion of the "ideal" campus.

TABLE 3

POPULATION OF STUDY BY COLLEGE, MAJOR, AND CLASSIFICATION

Major and Classification	College 1	2	3	4	5	6	Total
SCIENCE							
Soph.	175	157	133	333	128	327	1253
Jun.	189	120	122	333	187	323	1274
Sen.	159	130	143	360	222	384	1398
SOC. ST.							
Soph.	53	60	107	95	98	237	650
Jun.	77	93	109	117	200	270	866
Sen.	64	125	105	112	215	260	881
APP. FIELDS							
Soph.	107	104	136	304	128	660	1439
Jun.	170	103	130	255	291	684	1633
Sen.	162	83	133	220	276	814	1688
EDUCATION							
Soph.	61	39	94	127	118	250	689
Jun.	77	75	118	126	212	235	843
Sen.	80	67	99	130	253	256	885
HUMANITIES							
Soph.	51	44	77	111	74	234	591
Jun.	72	61	64	107	126	249	679
Sen.	59	55	79	95	148	295	731
TOTAL	1556	1316	1649	2825	2676	5478	15500

conducted at his institution in the near future. The response to the investigator's inquiries was not received on a 100 per cent basis. The sample size had been intentionally inflated in anticipation of problems in obtaining qualified participants. As expected, several problems evolved. The most significant are listed as follows: (1) Some of the students changed classification between the time of sample selection and the testing session. (2) Some students changed majors from the first semester to the second semester. (3) Some of the students were gone on teaching assignments on the testing date. (4) Some students did not enroll the second semester. (5) Many of the students did not return the cards enclosed in their correspondence even though they were self-addressed and stamped. (6) Some students returned cards declining to participate, but failed to sign their name to the card. (7) The problem of a single testing date caused the sample to vary from one day to another. The testing sessions were established, however, and the subjects were requested to attend. As a further measure, the investigator sent a memorandum to each of the faculty members asking them to remind the students to participate and to encourage their assistance in the study. The researcher was able to take 159 "clean" measures from the participants of the study. Table 4 illustrates the sample distribution of the study by college, major, and classification.

Analysis Procedures

Following the collection of the data from each of the six colleges, the researcher processed the data as preparation of the testing of the hypotheses. The first hypothesis was tested by the analysis of variance

TABLE 4

SAMPLE OF STUDY BY COLLEGE, MAJOR, AND CLASSIFICATION

Major and Classification	College 1	2	3	4	5	6	Total
SCIENCE							
Soph.	0	1	2	1	1	0	5
Jun.	1	0	2	1	2	3	9
Sen.	2	0	0	3	1	2	9
SOCIAL STUDIES							
Soph.	0	1	1	1	2	1	6
Jun.	0	1	5	2	6	1	15
Sen.	4	0	3	4	4	1	16
APP. FIELDS							
Soph.	2	0	1	3	1	1	8
Jun.	2	1	4	1	4	2	14
Sen.	2	1	1	2	2	0	8
EDUCATION							
Soph.	1	0	3	1	1	1	7
Jun.	0	2	2	8	1	1	14
Sen.	0	4	1	3	2	2	12
HUMANITIES							
Soph.	1	3	1	2	3	1	11
Jun.	2	3	2	2	2	2	13
Sen.	2	2	2	2	4	1	13
TOTAL	19	19	30	36	36	19	159

statistical procedure. The underlying assumptions for the use of the analysis of variance, randomness of sample, normality of distribution, and independence of data, were sufficiently satisfied.[11] When significent results were located following the analysis of variance, the Duncan's Range Test was performed in an attempt to locate difference between specific means. There was two basic reasons for choosing the analysis of variance: (1) conservation of the data, and (2) to avoid uninterpretable results. Because of the small numbers in some of the sub-cells of the tabling paradigm, it was necessary to reduce the cells in order to insure a minimum number of subjects in each cell and at the same time use the maximum amount of data available for analysis.

The testing of the second hypothesis required the use of the Pearson Product-Moment Correlation statistical procedure. Two basic assumptions underly this procedure: (1) the data under examination have a linear relationship, and (2) the variance of the two variables are homogeneous.[12]

All hypotheses were tested at the .05 level of significance. Due to the nature of the instruments used in this study and the measures they produced, the .05 level of significance seemed to be more appropriate than a more stringent level of significance. The correlations were two-tailed tests of significance but the ANOVAs were one-tailed because the F distribution is a one-tailed distribution.[13]

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[11]Appropriate tests for randomness, similarity of distribution, and homoscedasticity were performed.

[12]Scattergrams were constructed and tests of homoscedasticity were performed.

[13]William L. Hays, Statistics (New York: Holt, Rinehart and Winston, 1963), p. 239.

Summary

The Campus Environment Study instrument, educational objectives instrument, scores from the American College Test, and cumulative grade point averages were selected as the data collecting instruments necessary for the testing of the problem of the study. Following the selection of the instruments a random stratified sample, based on the independent variables, was drawn from the six Oklahoma State Colleges. The analysis of variance, Duncan's Range Test and the Pearson Product-Moment Correlation were selected as the appropriate statistics to test the stated hypotheses due to the nature of the questions to be answered and the type data generated from the instruments. Following the collection of the data, the appropriate statistical techniques were applied to test each of the hypothesis of the study.

CHAPTER IV

RESULTS

One-hundred fifty-nine Sophomore, Junior, and Senior students from six state colleges of Oklahoma were used to analyze the effect of field of study, classification, and sex, on student opinion of the campus environment through use of the Campus Environment Study (CES) instrument. The measures taken with the CES instrument and the educational objectives instrument were tested for relationship by each of the independent variables. Tests were performed to determine relationship of American College Testing (ACT) scores, and cumulative grade point average with scores on the Campus Environment Study instrument with each of the independent variables.

Two hypotheses were tested. The first hypothesis was tested by using an analysis of variance statistic, followed by the Duncan's Range Test when a stated level of significant F value was reported. Hypothesis Two was tested by using a Pearson Product-Moment Correlation "r".[1] Both hypotheses were tested at the .05 level of significance.

Effects of Independent Variables and CES scores.

Hypothesis One states that there is no statistically significant difference among CES mean raw scores of students by college, major field

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[1]George A. Ferguson, Statistical Analysis in Psychology and Education (2d ed.; New York: McGraw-Hill Book Company, 1966), p. 111.

of study, sex, and classification. Results of testing the difference among CES mean raw scores among students by college are reported in Table 5. The results of the test report that there were significantly different means on the CES from the six state colleges. Mean scores ranged from a high of 60.47 at College 4 to a low of 2.31 at College 5.

TABLE 5

ANALYSIS OF VARIANCE OF CES SCORES BY COLLEGES

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Square	F
Between (Colleges)	159095.05	5	31819.01	2.86*
Within	1703807.78	153	11135.99	
Total	1862902.83	158		

*P $<$.05

Since an F value significant at the .05 level was determined, a Duncan's Range Test was performed to locate specific differences. The results of the Duncan's Range Test on CES mean scores at the six colleges were reported in Table 6. The campus of College 5, as perceived by its students, was found to be different from four of the other five campuses. The campuses of College 2 and 4 were perceived to be different environments, but in the ten remaining comparisons, the colleges in the study were perceived by their students to have similar environments, indicating

a higher degree of similarity than difference among the colleges in the study. Consequently, the remaining analysis considers the total sample as representing an essentially non-differentiated group.

TABLE 6

RESULTS OF DUNCAN'S RANGE TEST OF CES MEAN SCORES BY COLLEGE

College	5	2	1	6	3	4
CES Means	2.31	25.79	40.26	51.42	54.33	62.78
2.31		23.48	37.95*	49.11*	52.02*	60.47*
25.79			14.47	25.63	28.54	36.99*
40.26				11.16	14.07	22.52
51.42					2.91	11.36
54.33						8.45
62.78						

*P $<$.05

Results of testing the difference among CES mean raw scores among students by field of study are reported in Table 7. The results of the test indicate that campus environment, as measured by the CES, was perceived differently by students in major fields of study. The highest mean score was for students in the field of Education, $\bar{x}$ = 76.91. Students in the field of Social Studies reported the lowest mean score, $\bar{x}$ = 14.68. Since an F value significant at the .05 level was reported, a Duncan's Range Test was performed to locate specific differences in the means of the fields of study.

TABLE 7

ANALYSIS OF VARIANCE OF CES SCORES BY FIELDS OF STUDY

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Square	F
Between (Colleges)	279240.45	4	69810.11	6.79*
Within (Groups)	1583662.38	154	10283.52	
Total	1862902.83	158		

*P $<$ .05

The results of the Duncan's Range Test on CES mean scores for the five fields of study are reported in Table 8. Students in the field of Education had an opinion of the campus environment different from students in all other fields of study. Students in other fields viewed the campus with similar perspectives.

In an attempt to determine if classification has an effect on students' opinion of the campus environment as measured by the CES, the analysis of variance test was performed on students' scores grouped by classification. The results of this test are reported in Table 9. The analysis of variance of CES scores by classification failed to detect an F value significant at the .05 level. Mean score students by classification were as follows: Sophomores 31.45, Juniors 60.38, and Seniors 18.42

Completion of two semesters to seven semesters had no reported effect on the students' opinion of the environment. Their values

of the climate were similar whether they were Sophomores, Juniors, or Seniors.

TABLE 8

RESULTS OF DUNCAN'S RANGE TEST OF CES MEAN SCORES BY FIELDS OF STUDY

Fields	Social Studies	Science	Humanities	Applied Fields	Education
CES Means	14.68	30.59	32.89	40.83	76.91
14.68		15.91	18.21	26.15	62.23*
30.59			2.30	10.24	46.32*
32.89				7.94	44.02*
40.83					36.08*
76.91					

*P $<$ .05

TABLE 9

ANALYSIS OF VARIANCE OF CES SCORES BY CLASSIFICATION

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Square	F
Between (Classifications)	55667.47	2	27833.73	2.37
Within	1830822.83	156	11736.04	
Total	1886490.30	158		

In testing the effect of sex on students' perception of the campus environment as measured by the CES, the analysis of variance revealed a significant F value at the .05 level. The results of the analysis are reported in Table 10. Mean score for female subjects was reported as 61.43, while male subjects' mean score was 6.49. It is clear that the male students in this study viewed the campus environment with more criticism than female students.

TABLE 10

ANALYSIS OF VARIANCE OF CES SCORES BY SEX

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Square	F
Between (Sex)	115953.58	1	115953.58	10.48*
Within	1746955.55	157	11661.29	
Total	1862909.13	158		

*P < .05

Relationship of CES scores to Educational Objectives, ACT scores, and GPA

The second hypothesis of the study states that there are no statistically significant relationships between scores on the CES and attainment of educational objectives, ACT scores, and cumulative grade point averages of students by major field of study, classification, and sex.

The results of the correlation of the CES with the measures taken from other instruments in the study, by each of the independent variables,

are recorded in Table 11. Correlation of scores on the CES and attainment of educational objectives for all subjects in the study produced a coefficient significant at the .05 level. Therefore, viewing the whole sample, a positive relationship existed between how students perceived the campus and their attainment of educational objectives. Testing of the correlation of CES and educational objectives by fields of study revealed that regardless of field of study that a student was pursuing, his opinion of the campus and his attainment of educational objectives were positively related.

A positive significant relationship was reported to exist on CES and educational objectives for both Junior and Senior level students, but Sophomore students' scores did not show a significant level of relationship. Analysis of the level of relationship of CES scores and attainment of educational objectives by sex revealed a positive significant relationship for female students, and a lack of significant relationship for male students in the study.

A correlation of CES scores and the ACT composite score of all students in the study failed to locate a significant relationship between the two variables. Correlation of the scores of students on the CES and ACT by fields of study also failed to find that there was a significant relationship on these variables. The test of relationship of the variables, CES and ACT by classification, found only one classification, Seniors, to have a significant level of relationship. This relationship was reported to be negative. Scores of female students on CES and ACT had a negative relationship.

TABLE 11

THE COEFFICIENTS OF CORRELATION OF CES SCORES AND EDUCATIONAL OBJECTIVES, ACT COMPOSITE SCORE, AND GPA BY TOTAL SAMPLE, FIELD OF STUDY, CLASSIFICATION, AND SEX

	(N)	CES & EO	CES & ACT	CES & GPA
All subjects	159	.6310*	-.1936	.1996*
Fields of Study				
Science	22	.7396*	-.3963	.0369
Social Studies	37	.4161*	-.2049	.6673*
Applied Fields	30	.3681*	.1082	.4433*
Education	33	.3593*	-.2568	.0528
Humanities	37	.5935*	-.2587	.3133
Classification				
Sophomores	37	.1922	-.0878	.3939*
Juniors	65	.3763*	-.1140	.1865
Seniors	57	.4918*	-.2572*	.0977
Sex				
Female	94	.3415*	-.2375*	.0073
Male	65	.0937	-.1986	.2219

*P $<$ .05

Correlation of CES scores and cumulative grade point average of all subjects in the study indicated a positive relationship between the two measures. When scores on CES and GPA were correlated for students in Social Studies and in Applied Fields, a positive relationship was reported. Scores of students in Science, Education, and Humanities failed to produce a significant correlation coefficient. Only the Sophomores' opinion of the campus environment was related to their cumulative grade point average. For the other two classifications, Juniors and Seniors, opinion of the campus environment was not significantly associated with their grade point averages. When the relationship of the campus environment and cumulative grade point average was treated by sex distinction, it was found that scores on these two measures was not related for either sex.

In summary, the first hypothesis of the study stated that there is no statistically significant difference among CES mean raw scores of students by college, major field of study, sex, and classification. The results of the statistical tests reported that differences did exist between colleges, but that in comparing the mean of each college against the other colleges, ten of the fifteen comparisons were not statistically different. That is to say, then, the college campuses of this study were more similar than different. There was reported a statistically significant difference among CES mean raw scores of students by major field of study, with the mean score of Education students differing from the means of all other fields of study. Students in the four other areas of study viewed the campus environment similarly. CES mean raw scores of students by classification failed to be

significantly different from one another. Campus environment opinion of male subjects was determined to be significantly lower than the scores of female subjects. Therefore, the first hypothesis was rejected on the independent variables, college, major field of study, and sex and only the independent variable, classification, failed to be rejected. In the main, then, the results of the tests reported above indicate that descriptions of campus environments are subject to effect from field of study and sex but not effected by classification.

The second hypothesis of the study, that there are no statistically significant relationships between scores on the CES and attainment of educational objectives, ACT composite scores, and cumulative grade point average of students by major field of study, classification, and sex was tested by the Pearson Product-Moment Correlation. Relationship of opinion of the campus environment with attainment of educational objectives existed in nine of the eleven correlations. CES scores and educational objectives were related for students in all fields of study, for Junior and Senior students, and for female students of the study. Scores for the total sample on these two measures indicated a relationship existed. Relationship of opinion of campus environment with the composite ACT score was determined in only two of the eleven correlations. Campus environment and ACT composite scores were significantly related only for senior students and female students. However, the detected relationship in both cases was negative. A significant relationship of campus environment and cumulative grade point average was found for the

sample as a whole, for students in Social Studies and Applied Fields, and for Sophomore level subjects. Scores for subjects in other fields, for Junior and Senior students, and for male and female subjects by sex failed to produce significant correlations. Therefore, the second hypothesis, that no relationship exists between opinion of the campus environment and attainment of educational objectives was rejected. The hypothesis that no relationship exists between students' opinion of the campus environment and composite ACT scores was accepted. The hypothesis that no relationship exists between students' opinion of the campus environment and cumulative grade point average was accepted, since only four of eleven correlations disclosed a significant relationship. Therefore, the tests indicate that campus environment and attainment of educational objectives are positively related, and ACT results and cumulative grade point average are not related to the campus environment.

Chapter V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

Conduct of study. One hundred fifty-nine sophomore, junior, and senior students from the six state colleges of Oklahoma were tested in order to determine the effect of college, academic field of study, classification, and sex on assessment scores of the campus environment, and to determine magnitude and direction of relationship of the environment assessment scores with attainment of educational objectives, ACT composite scores, and cumulative grade point average by academic field of study, classification, and sex. Campus environments selected to provide the sample of the study were those of the colleges known as the Oklahoma State Colleges. These colleges were selected for this study due to their similarity in designated function, identical admission requirements, similar financial allocations, and the fact that they are controlled by the same board of regents.

To test the hypotheses of the study, a stratified random sample from the population of each of the state colleges was drawn and invited to participate in the study. The random sample was stratified on both classification and academic field of study. For each of the fifteen sub-samples of the six colleges, twenty students were randomly selected and invited to participate in the campus environment evaluation. The

investigator scheduled eight one-hour sessions on each college campus to collect students' scores on the CES and educational objectives instruments. From these sessions 159 "clean" measures were taken. Cumulative grade point average and ACT scores for each subject were retrieved from the permanent records in the Admissions and Records Department of each college.

The Campus Environment Study instrument, used to obtain the assessment of the campus environment, was selected because the characteristics of the instrument were compatible with the demands of the research. This instrument had been designed by interinstitutional researchers and normed at institutions with characteristics similar to those selected for use in this research. The educational objectives instrument adapted from previous research by Pace and Herrscher contained statements of educational objectives which were recognized as either explicit or implicit functions of the institutions under investigation.

The testing of the stated hypotheses demanded the use of several statistical procedures. The first hypothesis required a one-way analysis of variance followed by a Duncan's Range Test upon the location of a .05 level of significance. The second hypothesis was tested by the Pearson Product-Moment Correlation "r".

Findings. The results of testing the hypotheses of this study were used to resolve the problem of the study. From the testing of the first hypothesis it was determined that field of study and sex had an effect on students' opinion of the campus environment as measured by the Campus Environment Study instrument. Students in Education had

opinions of the campus environment different from students in all other fields of study. Scores on the CES instrument for female students were higher than male students, indicating the balance of subjects by sex may have an influence on the obtained evaluation of a campus. Level of classification did not have an effect on campus environment as measured by the CES as scores on the instrument were similar regardless of classification. Results of testing the second hypothesis indicated that the students' opinion of the campus and his degree of attainment of educational objectives were compatible. This was true regardless of the field of study of the student. Compatibility of campus opinion and attainment of educational objectives was not true for Sophomore level students. This is not alarming when it is remembered that students' opinion of the campus did not differ from one classification to the other, although it might be anticipated that degree of attainment of educational objectives would increase as students progress toward completion of their undergraduate degrees. Scores of male students in this study were not determined to be related to a significant degree between perception of the campus environment and attainment of educational objectives. Campus opinion and ACT scores were negatively related for Senior students.

CES and cumulative grade point average were related for the sample as a whole, and for students majoring in Social Studies and Applied Fields in particular. Only the cumulative grade point average of Sophomore students was found to have a relationship with CES scores for students by classification. This may be true due to the limited number of college hours on which the Sophomores grade point is based

as compared to this same measure for Junior and Senior individuals.

Conclusions

The finding presented in Chapter IV and summarized in the first portion of this chapter indicate the appropriateness of the following conclusions:

(1) The campus environments of the six Oklahoma State Colleges are more similar than different. In the fifteen comparisons made, ten indicated that the campus environments were similar. Only the campus environment of College 5 was perceived to be less like the other campuses and was viewed as a weaker environment than described by the statements of the Campus Environment Study instrument. Students at College 4 viewed their campus more positively than any of the other institutions. They identified their institution as being more like the campus described by statements within the campus environment assessment instrument. As perceived by the students within the colleges, the campuses of Colleges 1, 2, 3, and 6 were very similar environments. Therefore, on the basis that their environments were more similar than different, the subjects of this study were considered to be students in nondifferentiated environments.

(2) Students' perception of the campus environment is effected by field of study. Students in the field of Education viewed the campus environment more favorably than did any of the other fields. Students in Social Studies, Applied Fields, Education, and Humanities viewed the environment similarly but with less favor than did students of Education. To conclude that field of study does not effect opinion of

the campus environment would be in error since the field of Education is a paramount responsibility on the campuses of the six colleges in this study.

(3) Classification, sophomore level through senior level, does not have an effect on campus environment perception. Sophomores' opinion of their campus was more favorable than those of Seniors', but was less favorable than that of Juniors'. However, the opinion of one classification was not different to the degree that would indicate that amount of time spent in the environment was having substantial effect on campus perception.

(4) Sex of students has an effect on the assessment of campus environment. Female students had a more positive view of campus environment, while male students perceived the environment with much less favor.

(5) Campus environment and attainment of educational objectives are related regardless of field of endeaver. In all five fields of study included in this study, Science, Social Studies, Applied Fields, Education, and Humanities, campus environment and attainment of educational objectives were related. Fields having a high opinion of the campus environment also had a high degree of attainment of educational objectives, while fields having a lower opinion of the campus environment had a lower degree of attainment of educational objectives.

(6) Campus environment and attainment of educational objectives is related only for Junior and Senior students. Since opinion of the campus was not effected by classification, it can be concluded that increased attainment of educational objectives must be influenced by classification.

(7) Female students have a favorable opinion of the campus environment while making positive attainment of educational objectives. Male students had a considerably lower opinion of the campus environment than female students, but the two groups perceived attainment of educational objectives in a similar manner.

(8) There is no relationship between the campus environment and ACT scores by fields of study. Since a significant relationship was not located between these two measures when viewed by fields, it must be concluded that campus environment and ACT scores are independent of one another in this arrangement.

(9) ACT scores and campus environment are negatively related for Senior students. Seniors did not view the campus environment with high opinion but as a group had above average composite ACT scores.

(10) ACT scores and campus environment are negatively related for female students. Female students had a high opinion of the campus environment but as a group had below average composite ACT scores.

(11) Campus environment and cumulative grade point average is related only for students in particular fields of study. Low opinion of the campus environment and low grade point averages, and high opinion of the campus environment and high grade point averages, were found for students of Social Studies and Applied Fields. In the fields of Science, Education, and Humanities, no significant relationship was found between opinion of the campus environment and grade point average.

(12) Perception of the campus environment and cumulative grade point average is related only for students in the Sophomore class. Opinion of the campus environment and cumulative grade point average

were not significantly related for students beyond the sophomore level.

(13) Sex does not effect the relationship of campus environment and grade point average. Perception of the environment and the cumulative grade point average were not significantly related for either male or female students.

Implications

An analysis of the data in this study has revealed several interesting conclusions which appear to suggest certain implications for future campus environment studies. This study indicates that stratified random sampling based on sex and field of study are essential in use of the Campus Environment Study instrument when seeking an assessment of the campus environment. Results of the study indicate that further investigation of the campus environment at College 5 is needed in order to determine the specific domain or domains of the environment in which students have a low opinion so that change can be initiated to provide better congruence between students and the climate for learning.

Further investigation is needed to identify characteristics of students who have low scores on the CES and also a feeling of low attainment of educational objectives. Possibly, through such an investigation, needed programs could be structured in order to aid the student to greater progress in attainment of educational objectives. Further research using campus environment assessment instruments should seek to distinguish the difference of environment as perceived by individuals identified as local residents and those students who come from beyond the local community of the campus in order to distinguish

if the evaluation is really of the campus or of the town site.

Since students in the field of Education, composed primarily of elementary education and special education majors, viewed the environment differently than did the other fields, it is suggested that future research investigate students' opinion of the environment by teaching and non-teaching degree classifications. In this study students preparing to teach at the secondary level were identified with their disciplines rather than with the field of Education.

Administrators of the colleges in this investigation might consider the possibility of an annual investigation of campus environment which would provide evidence of environment change from year to year. This information could be used to establish local norms on the applied instrument.

The final implication is that continued and expanded research must be initiated to identify areas of the environment which are not contributing to the facilitation of students' attainment of the proposed educational objectives of the institution. Those individuals charged with the responsibility of administering to the affairs of the institution may, then, initiate the necessary action to insure that the learning center in practice is consistent with the stated function of the institution.

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APPENDIX A

PERMISSION TO USE CAMPUS ENVIRONMENT STUDY INSTRUMENT

UNI

UNIVERSITY OF NORTHERN IOWA · Cedar Falls, Iowa 50613

Bureau of Research
and Examination Services
AREA 319 273-2043

July 1, 1970

Miss Kathleen Black
Assistant Professor P.E.W.
Central State College
Edmond, Okla. 73034

Dear Miss Black:

In reply to your letter of June 8, and to the telephone conversation with Dr. Ryan a few minutes ago regarding your use of the CSCU Campus Environment Study as a research project on your doctoral program, I can say now that you may use the instrument in this piece of research.

The Campus Environment Study (CES) instrument has been completed, and the norms developed. At the present time the Inventory and Manual of Norms are being prepared for copyright - so that the control of its use may remain with CSCU. It is hoped that the copyright may be obtained by fall.

I am sending along a copy of the Inventory together with some analytic data regarding it.

Sincerely yours,

H.M. Silvey
Director

APPENDIX B

CAMPUS ENVIRONMENT STUDY INSTRUMENT

CAMPUS ENVIRONMENT STUDY of Oklahoma State Colleges

Conducted by Kathleen Black

DIRECTIONS:

1. Turn your answer sheet to SIDE I.

2. Use a No. 2 lead pencil to fill in all the information. Mark only on the answer sheet. Please make no marks in the questionnaire booklet.

3. NAME. Print your name, as you are officially enrolled, in reverse order in the blank provided at the top of the answer sheet. Turn answer sheet over and repeat on Side 2.

4. SCHOOL AND STUDENT IDENTIFICATION. On the right upper half of the answer sheet is a vertical row of boxes labeled A thru J. In the space labeled A write the code number of your college. Blacken the corresponding number in the row.

School	Code #
Central State College	
East Central State College	
Northeastern State College	
Northwestern State College	
Southeastern State College	
Southwestern State College	

In boxes B thru J write your student number. If your number is less than nine digits long, write the number so that it ends in the box labeled J at the bottom of the column. Fill any spaces preceding at the top with zeros. Blacken the corresponding number in the row. (Repeat on Side 2 of answer sheet)

5. SEX. Blacken the appropriate box.

6. GRADE. Blacken the box that corresponds to your present educational classification.

7. MAJOR. From the list on the next page select the code for your major. On the answer sheet in the three blanks next to MAJOR write in the number of your major. Blacken the corresponding number in the row.

CODE	MAJOR
401	Accounting
201	Agriculture
601	Art
202	Aviation
203	Biology
402	Business Administration
403	Business Education
204	Chemistry
404	Commerce
205	Computer Science
206	Conservation
301	Economics
501	Education
502	Elementary Education
207	Engineering
602	English
604	Foreign Language
603	French
223	Funeral Service
405	General Business
302	Geography
605	German
303	Government
208	Health and Physical Education
304	History
406	Home Economics
407	Industrial Arts
606	Journalism

CODE	MAJOR
611	Library Science
209	Mathmatics
408	Medical Records
210	Medical Technology
607	Music
211	Natural Science
212	Nursing
213	Pharmacy
214	Physics
215	Physical Science
305	Political Science
216	Pre-Dental
207	Pre-Engineering
306	Pre-Law
218	Pre-Medicine
219	Pre-Nursing
213	Pre-Pharmacy
221	Pre-Veterinary
307	Psychology
409	Secretarial Training
308	Social Studies
309	Sociology
503	Special Education
608	Spanish
609	Speech
610	Speech Therapy
222	Technology
410	Vocational Business Short Course
701	No Major
702	Undecided
703	Major Not Listed

PART I

CSCU

CAMPUS ENVIRONMENT STUDY*

INTRODUCTION

The Campus Environment Study (CES) has been developed especially for use in Central State Colleges and Universities. This inventory has been developed for use in assessing student opinion in various facets of campus atmosphere, conditions and circumstances. The environmental conditions are made up of various factors, such as objectives, practices, facilities, faculty, interests, and programs to list a few. It is presumed that a student is in a position to evaluate conditions at his institution with some degree of accuracy.

GENERAL DIRECTIONS

The inventory contains 150 statements relating to campus environment. The response to each statement is to be recorded in terms of a degree of agreement or disagreement.

FRAME OF REFERENCE. The responses to the statements should be made according to the way the respondent sees and interprets the issue as stated as it relates to the campus environment. In reference to "student" in the statement, or where "student" is implied, consider the statement as related to "self involvement", and respond "as I evaluate or react to it."

RESPONSE TO STATEMENTS IN INVENTORY. Read each statement and think how it applies to your campus situation. Then react to each statement in the following manner:

1. If you Strongly Agree, blacken space "1".
2. If you Agree (other than Strongly Agree), black space "2".
3. If you Disagree (other than Strongly Disagree), blacken space "3".
4. If you Strongly Disagree, blacken space "4".
5. If you are Uncertain (cannot make up your mind), blacken space "5". If you cannot respond to any of the above, use this space.

*Reproduced by permission of H. M. Silvey.

CSCU

CAMPUS ENVIRONMENT STUDY

1. There is much more emphasis directed toward understanding than upon memorization of fact in most classes.
2. Most instructors are very thorough in the teaching of their subject matter.
3. Students are generally aware that several instructors are engaged in scholarly research and other creative work.
4. Stimulating classroom discussions are frequent.
5. Most instructors establish course standards that are particularly difficult to attain.
6. High scholarship is a common goal of most students.
7. Open mindedness and objectivity are characteristic of most classes.
8. Many students on this campus are striving for high grades.
9. Considerable out-of-class preparation by students is necessary for most courses.
10. Instructors keep course materials up-to-date and examinations revised.
11. Examinations satisfactorily measure course assignments and presentations.
12. Most instructors here are dedicated teachers.
13. The academic atmosphere on this campus encourages students to go on to graduate work.
14. Instructors generally expect more work than most students are able to accomplish.
15. Curricular offerings are generally considered to be complete enough to satisfy most student program requirements.
16. Course work requires so much time that little is left for other activities.
17. There are adequate seminar, independent study, and field experience courses available to students.
18. Most instructors recognize a superior student and are willing to take extra time to challenge him.
19. There is a good balance between idealism and other points of view in the classroom.

Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
(1)	(2)	(3)	(4)	(5)

20. It is not difficult to determine the purposes and objectives of most courses.

21. Good teaching is a characteristic of most instructors at this institution.

22. Academic advising is adequate.

23. Most instructors provide ample time for individual consultation.

24. The institution provides a great many academic resources for student use.

25. Ideas and issues brought up in class are often out-of-class discussion topics by students.

26. Most classrooms are not overcrowded.

27. Library resources such as reference books and periodicals are plentiful.

28. Laboratories contain adequate equipment and supplies to carry out assigned work.

29. Recreational facilities are adequate to meet the needs of most students.

30. It is not difficult to find adequate study space on campus.

31. The campus has a very attractive appearance.

32. The books and materials in the library at this institution are organized to provide for ease of location.

33. Custodial services on campus are satisfactory.

34. The library is a good place to study.

35. Rules regulating student conduct in all housing areas are reasonable and fair.

36. Off-campus housing facilities are satisfactory.

37. Enrollment and registration procedures are well organized.

38. Student meeting facilities in the Union or Student Center are sufficient to meet needs.

39. Institution-owned housing facilities are satisfactory.

40. Campus buildings and areas are clearly marked.

41. Facilities such as typing rooms, science labs and shops are generally available to students for individual study.

Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
(1)	(2)	(3)	(4)	(5)

42. The library staff provides sufficient personal assistance in locating materials in the library.

43. Campus food services are satisfactory.

44. Pedestrian traffic on campus is facilitated by a good network of sidewalks.

45. There is sufficient visitor parking space on campus.

46. Health services on campus are sufficient to meet student needs.

47. Housing costs are reasonable for the facilities and services provided.

48. Current arrangements for buying or renting books and supplies are satisfactory.

49. Personal and Psychological counseling services on campus are satisfactory.

50. There are sufficient opportunities for student employment at the institution.

51. Opportunities are provided for students to evaluate works of art.

52. The Artist/Lecture-Concert series are well attended by students.

53. Proper table manners are practiced in the dining halls on campus.

54. Classical music is popular with the majority of students.

55. Students on this campus have an excellent opportunity to gain an appreciation in the fine arts.

56. Live performances of symphonies, ballet, and operas are well patronized by the students.

57. Paintings and other works of art are widely displayed around the campus.

58. Patterns of social behavior on this campus conform favorably to accepted good taste.

59. Dramatic presentations are given frequently on campus.

60. The institution has extensive museum collections.

61. The faculty appears to have a keen interest in the fine arts.

62. Students appear to have an interest in the reading of novels, short stories and poetry.

63. The general campus atmosphere emphasizes "the finer things of life."

Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
(1)	(2)	(3)	(4)	(5)

64. There is opportunity to study cultures other than our own.

65. There are a variety of performing musical groups on this campus.

66. The film program on this campus has distinct aesthetic values.

67. Speech and forensics has strong emphasis on this campus.

68. There are available to students opportunities for creative expression in the fine arts.

69. The music department has a strong cultural influence.

70. The library of tapes and records, i.e., music, poetry, etc., is used extensively by students.

71. There are some outstanding performing artists on the music faculty.

72. There are several student groups that sponsor events of an aesthetic or cultural nature.

73. Poetry and literature receive much emphasis on this campus.

74. In general the speech and habits of students reflect refinement and good taste.

75. Artists and performing groups appear frequently on campus.

76. It is easy for students to communicate with the administration.

77. The expression of student opinions is encouraged.

78. Instructors are easy to approach with questions concerning classwork.

79. Generally, students feel quite comfortable in approaching instructors regarding a problem.

80. Generally there is a friendly and cooperative relationship between departments.

81. The administration and teaching faculty appear to cooperate well.

82. Faculty members invite informal out-of-class discussions.

83. There is close cooperation between campus student organizations.

84. The student newspaper is a vital communication tool on campus.

85. The student newspaper serves as a sounding board to discuss administrative policies.

Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
(1)	(2)	(3)	(4)	(5)

86. It is not difficult to find out what is going on around campus.

87. The student-faculty committees on this campus serve as an effective means of communication.

88. The student government is functioning satisfactorily.

89. The student newspaper provides a medium for exchange of intellectual ideas by faculty and students.

90. There is little difficulty experienced by the student in obtaining needed information about the institution.

91. Campus elections are well planned and publicized.

92. The editors of the campus newspaper have a great deal of freedom and latitude.

93. The administration attempts to keep students informed on matters of policy.

94. There is a friendly relationship between faculty and students.

95. Rumors are quickly diss[illegible] campus by ready access to facts.

96. It is not hard to [illegible] tside of class.

97. Students do no[illegible] not know what is going on.

98. Student gove[illegible]ty and students.

99. The adminis[illegible]mptly of policy changes.

100. Students ka[illegible]es.

101. There are ha[illegible]dents and non-college youth in thi[illegible]

102. The campus at[illegible]e.

103. There is the gene[illegible]nts are treated alike without preferential treatme[illegible]

104. Close friendships are easy to cultivate with fellow students.

105. The general atmosphere on campus is friendly.

106. There is strong student loyalty to this institution.

107. The faculty on this campus is considerate and concerned with student problems.

Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
(1)	(2)	(3)	(4)	(5)

108. Students have little difficulty cashing checks in this community.

109. The merchants in this community treat students like first class citizens.

110. There is a feeling of mutual respect between students and faculty.

111. There are ample opportunities to meet people through social functions and student organizations.

112. Students show a concern for each other at this institution.

113. The police in this town do not discriminate against students.

114. There is a relaxed atmosphere on this campus.

115. Student organizations play an effective role in implementing institutional policies.

116. Social standing at this institution is not dependent upon belonging to the right clubs, organizations or groups.

Turn to side 2 of answer sheet

117. Upper classmen provide helpful leadership to new students.

118. There is considerable interest in student elections on campus.

119. School spirit is an important part of student life on this campus.

120. Students on this campus come from similar social backgrounds.

121. The college community compares favorably with the home community of most students in customs and practices.

122. The faculty as a general rule welcome student appeal for advice and counsel.

123. The students at this institution generally have similar attitudes and goals.

124. Life on campus is generally regarded as a pleasant and rewarding experience.

125. The standards of value held by the community outside the campus are comparable to those held by the institution itself.

126. Students respect institutional rules and regulations.

127. Excessive drinking by students does not create a real problem on this campus.

128. Proper social decorum and good manners are above average on the campus.

Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
(1)	(2)	(3)	(4)	(5)

86. It is not difficult to find out what is going on around campus.

87. The student-faculty committees on this campus serve as an effective means of communication.

88. The student government is functioning satisfactorily.

89. The student newspaper provides a medium for exchange of intellectual ideas by faculty and students.

90. There is little difficulty experienced by the student in obtaining needed information about the institution.

91. Campus elections are well planned and publicised.

92. The editors of the campus newspaper have a great deal of freedom and latitude.

93. The administration attempts to keep students informed on matters of policy.

94. There is a friendly relationship between faculty and students.

95. Rumors are quickly disspelled on this campus by ready access to facts.

96. It is not hard to get to know instructors outside of class.

97. Students do not seem to be disturbed if they do not know what is going on.

98. Student government is a strong link between faculty and students.

99. The administration informs faculty and students promptly of policy changes.

100. Students keep informed about important campus issues.

101. There are harmonious relations between college students and non-college youth in this community.

102. The campus atmosphere here makes one feel at home.

103. There is the general feeling that all students are treated alike without preferential treatment of some.

104. Close friendships are easy to cultivate with fellow students.

105. The general atmosphere on campus is friendly.

106. There is strong student loyalty to this institution.

107. The faculty on this campus is considerate and concerned with student problems.

Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
(1)	(2)	(3)	(4)	(5)

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126. Students respect institutional rules and regulations.

127. Excessive drinking by students does not create a real problem on this campus.

128. Proper social decorum and good manners are above average on the campus.

Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
(1)	(2)	(3)	(4)	(5)

129. In general the student body maintains a high standard of conduct.

130. Freedom of speech is an accepted practice on this campus.

131. Cheating and similar forms of dishonesty would result in strict disciplinary measures at this institution.

132. The use of marijuana by students has not become widespread on this campus.

133. The attitudes regarding sex held by a majority of students do not violate the generally accepted rules of good conduct.

134. The moral code of the majority of students is generally above reproach.

135. There is little discrimination as a result of racial prejudice on campus.

136. Institutional regulations do not place undue restraints on social conduct.

137. Cheating on examinations is a minor problem on this campus.

138. Uncontrolled student behavior is not a characteristic of this institution.

139. There is a pronounced atmosphere of honesty and sincerity on this campus.

140. Controversial issues are not denied fair consideration on this campus.

141. There are few students of the "hippie type" on campus.

142. Minority opinion is respected on this campus.

143. There are few cliques and little snobbishness on this campus.

144. Personal conduct is regulated largely by the "honor system."

145. There is no unreasonable exercise of "student power" on this campus.

146. Students are permitted to make many of their own rules of conduct here.

147. The use of hallucinatory drugs by students has not become widespread on this campus.

148. Fraternities and sororities are generally regarded with favor by the institution.

149. High standards of honesty and integrity are set by the example of the faculty.

150. Members of all races participate in all campus activities on an equal basis.

Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
(1)	(2)	(3)	(4)	(5)

APPENDIX C

EDUCATIONAL OBJECTIVES

PART II

EDUCATIONAL OBJECTIVES

Respond to the degree of progress you feel you have made toward the attainment of each of the following educational objectives.

Blacken space - 1 - a great extent
- 2 - relatively much
- 3 - a moderate amount
- 4 - relatively little
- 5 - very little

151. Acquiring a broad cultural and literary education

152. Vocational training — skills and techniques directly applicable to a job

153. Background and specialization for further education in some professional, scientific, or scholarly field

154. Understanding different philosophies, cultures, and ways of life

155. Social development — gaining experience and skill in relating to other people

156. Personal development — understanding one's abilities and limitations, interests, and standards of behavior

157. Knowing how to participate effectively as a citizen in one's community and in wider areas

158. Developing an ability to think critically and an understanding of the origin, nature, and limitations of knowledge.

159. Developing an ability to write, speak, and communicate clearly, correctly and effectively

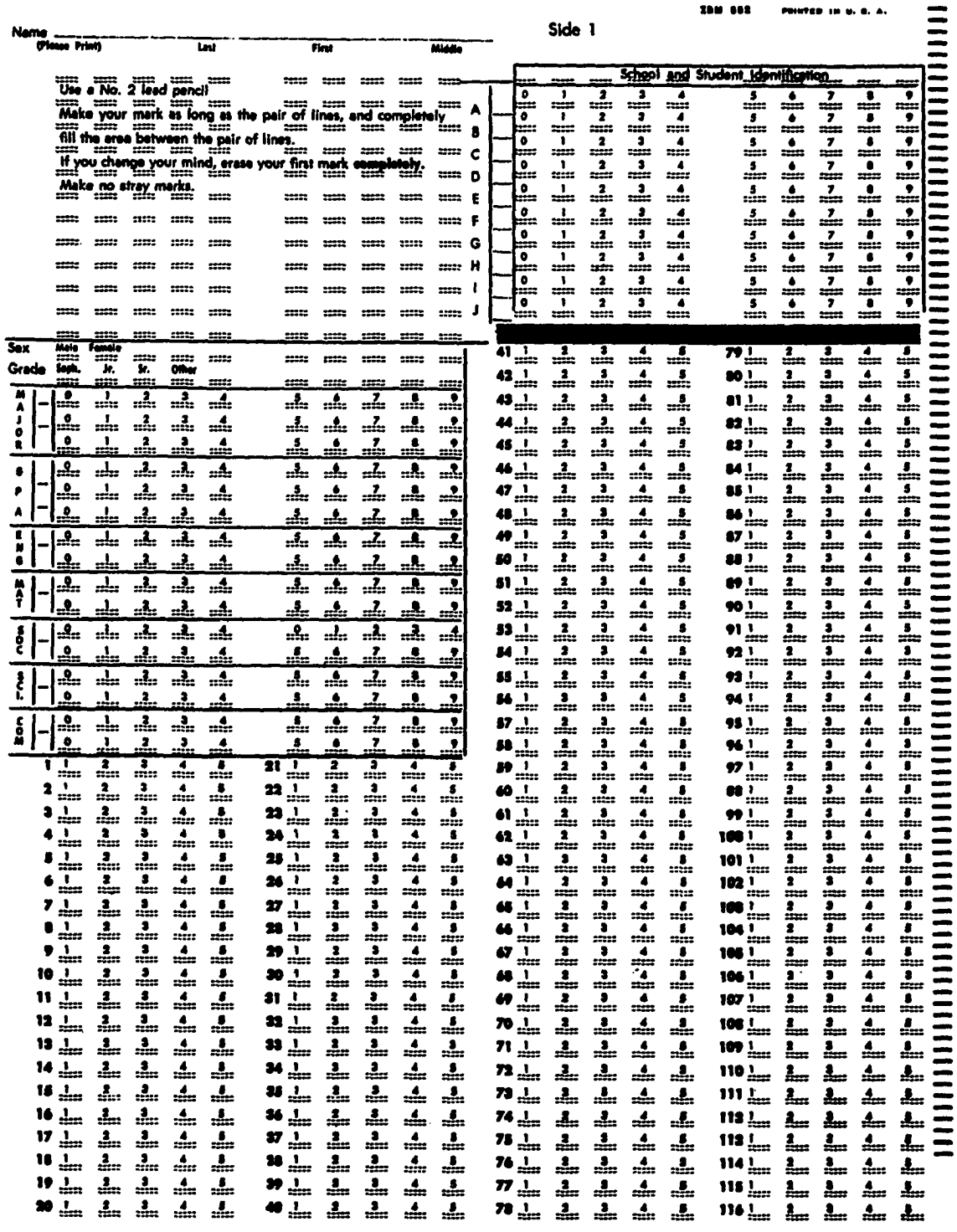
160. Developing an appreciation and enjoyment of art, music, and literature

161. Developing an understanding and appreciation of science and technology

162. Developing skills in leisure time activities with carry-over value for later life.

APPENDIX D

BIOGRAPHICAL DATA (ANSWER SHEET)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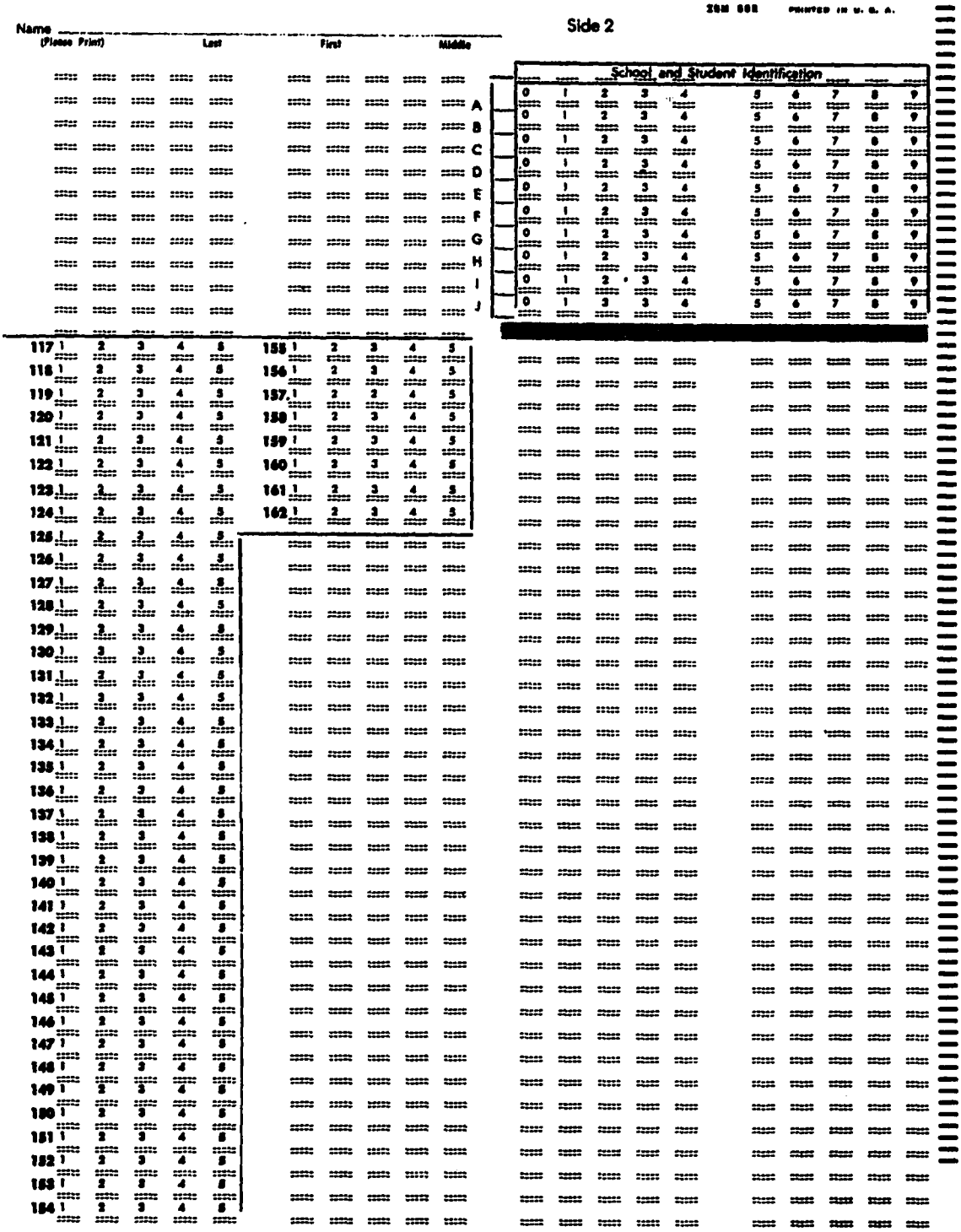
Use a No. 2 lead pencil
Make your mark as long as the pair of lines, and completely fill the area between the pair of lines.
If you change your mind, erase your first mark completely.
Make no stray marks.
School and Student Identification
Sex
Male
Female
Grade
Sept.
Jr.
Sr.
Other
MAJOR
MINOR
SOC SCI
COM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APPENDIX E

DEGREES OFFERED AT SIX STATE COLLEGES CATEGORIZED IN FIVE FIELDS OF STUDY

FIGURE 1

DEGREES OFFERED AT SIX STATE COLLEGES
CATEGORIZED IN FIVE FIELDS OF STUDY*

	Central State	East Central	North-eastern	North-western	South-eastern	South-western
Science						
Agriculture				X		
Aviation					X	
Biology	X	X	X	X	X	X
Chemistry	X	X	X	X	X	X
Computer Science	X	X			X	M**
Conservation					X	
Engineering	X		X			
Funeral Service	X					
Health and Physical Educ.	X		X	X	X	X
Mathematics	X	X	X	X	X	X
Medical Technology	X	X			X	X
Natural Science	X			X		
Nursing	X					
Pharmacy						
Physics	X	X	X	X	X	X
Physical Science						
Pre-Dental	X		X			X
Pre-Engineering						X
Pre-Medicine	X		X			X
Pre-Nursing						X
Pre-Pharmacy	X					X
Pre-Veterinary	X					X
Social Studies						
Economics	X	X	X	X	X	X
Geography	X	X	X	X	X	M**
Government	X	X		X	X	
History	X	X	X	X	X	X
Political Science			X			X
Pre-Law	X		X			X
Psychology	X		X	X	X	X
Social Studies	X		X	X	X	
Sociology	X	X	X	X	X	X
Applied Fields						
Accounting	X	X	X	X	X	X

FIGURE 1 (Cont'd)

	Central State	East Central	North-eastern	North-western	South-eastern	South-western
Business Administration	X	X	X		X	X
Business Education		X	X	X	X	
Commerce						
General Business	X	X		X		
Home Economics	X	X	X	X	X	X
Industrial Arts	X	X	X	X	X	X
Medical Records						X
Secretarial Training	X	X	X	X	X	X
Vocational Business Short Course						
Technology					X	
Education						
Education	X			X	X	
Elementary Education	X	X	X	X	X	
Special Education	X	X	X			
Humanities						
Art	X	X	X	X	X	X
English	X	X	X	X	X	X
Foreign Language	X			X	X	
French	X		X	X	X	X
German	X		X			X
Journalism	X		X			X
Library Science	X		X	X		M**
Music	X	X	X	X	X	X
Spanish	X	X	X	X	X	X
Speech	X	X	X	X	X	X
Speech Therapy			X	X		

*Information compiled from current catalog from each of the colleges.

**Indicates minor offered only.

APPENDIX F

COMPUTER CARD FORMAT FOR RAW DATA

Raw data obtained from the IBM answer sheet used in this study is presented in Table 12. The original computer format used in keypunching the data is disclosed in Figure 2.

FIGURE 2

CARD FORMAT USED IN KEYPUNCHING RAW DATA OBTAINED FROM STUDENTS FROM THE SIX STATE COLLEGES

Column(s)	Information
Card 1	
1	Card number
2	College code number
3-11	Student identification number
12-14	Major field of study (Code listed in instrument)
15-17	Cumulative grade point average
18-19	American College Test - English subscale (standard score)
20-21	American College Test - Math subscale (standard score)
22-23	American College Test - Social Studies subscale (standard score)
24-25	American College Test - Science subscale (standard score)
26-27	American College Test - Composite score (standard score)
28-52	CES items 1-25 (Academic Environment)
53-77	CES items 26-50 (Facilities and Services)
78-80	CES items 51-53 (Cultural Climate)
Card 2	
1	Card number
2	College code number
3-11	Student identification number
12-33	CES items 54-75 (Cultural Climate)
34-58	CES items 76-100 (Communications)
59-80	CES items 101-122 (Community Relationships)
Card 3	
1	Card number
2	College code number
3-11	Student identification number
12-14	CES items 123-125 (Community Relationships)
15-39	CES items 126-150 (Ethical and Moral Values)
40-51	Educational Objectives 1 through 12
52	Sex (1 = male, 2 = female)
53	Grade classification (1 - soph., 2 - junior, 3 = senior)

APPENDIX G

RAW DATA

TABLE 12

RAW DATA OF THE 159 SUBJECTS

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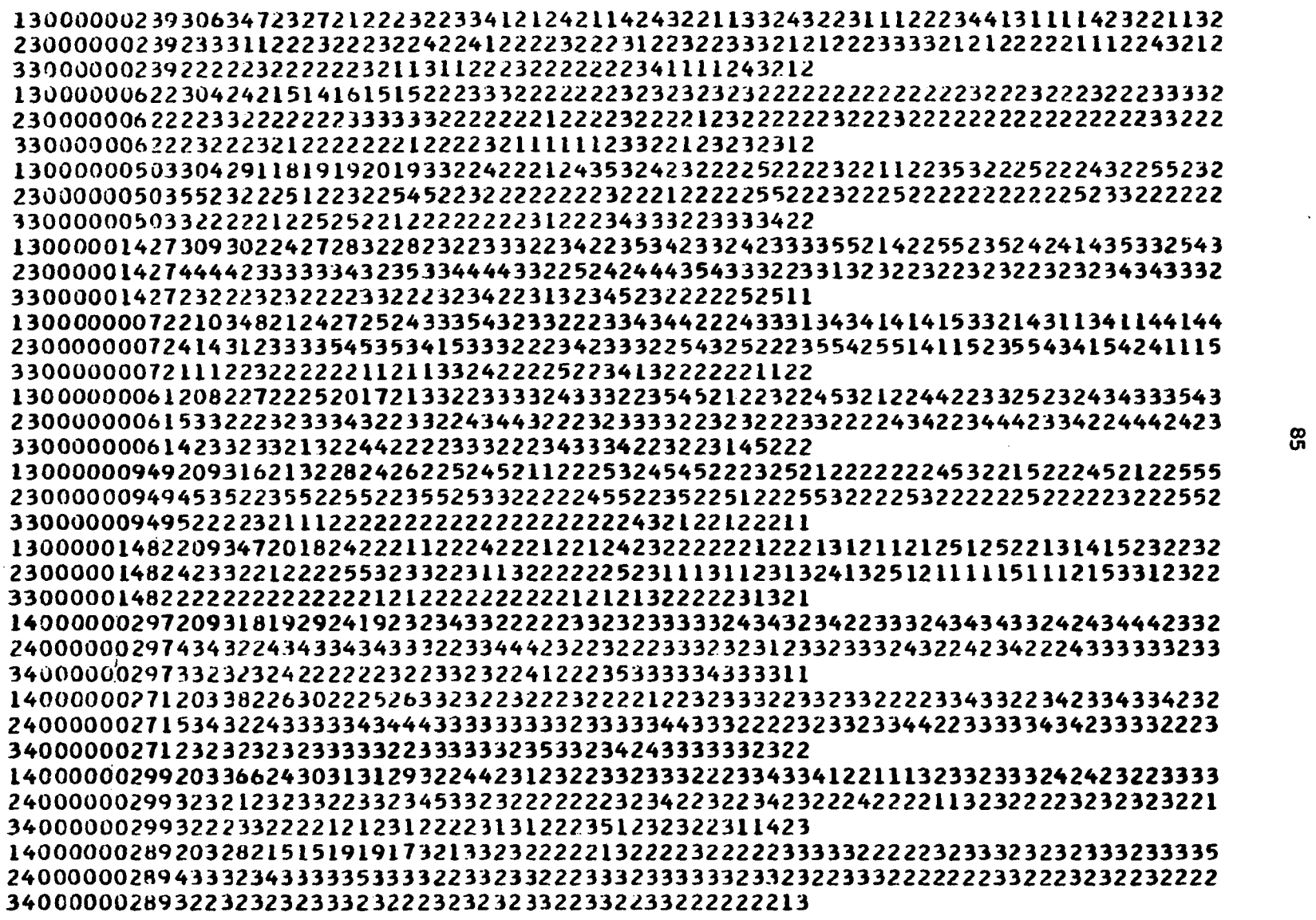


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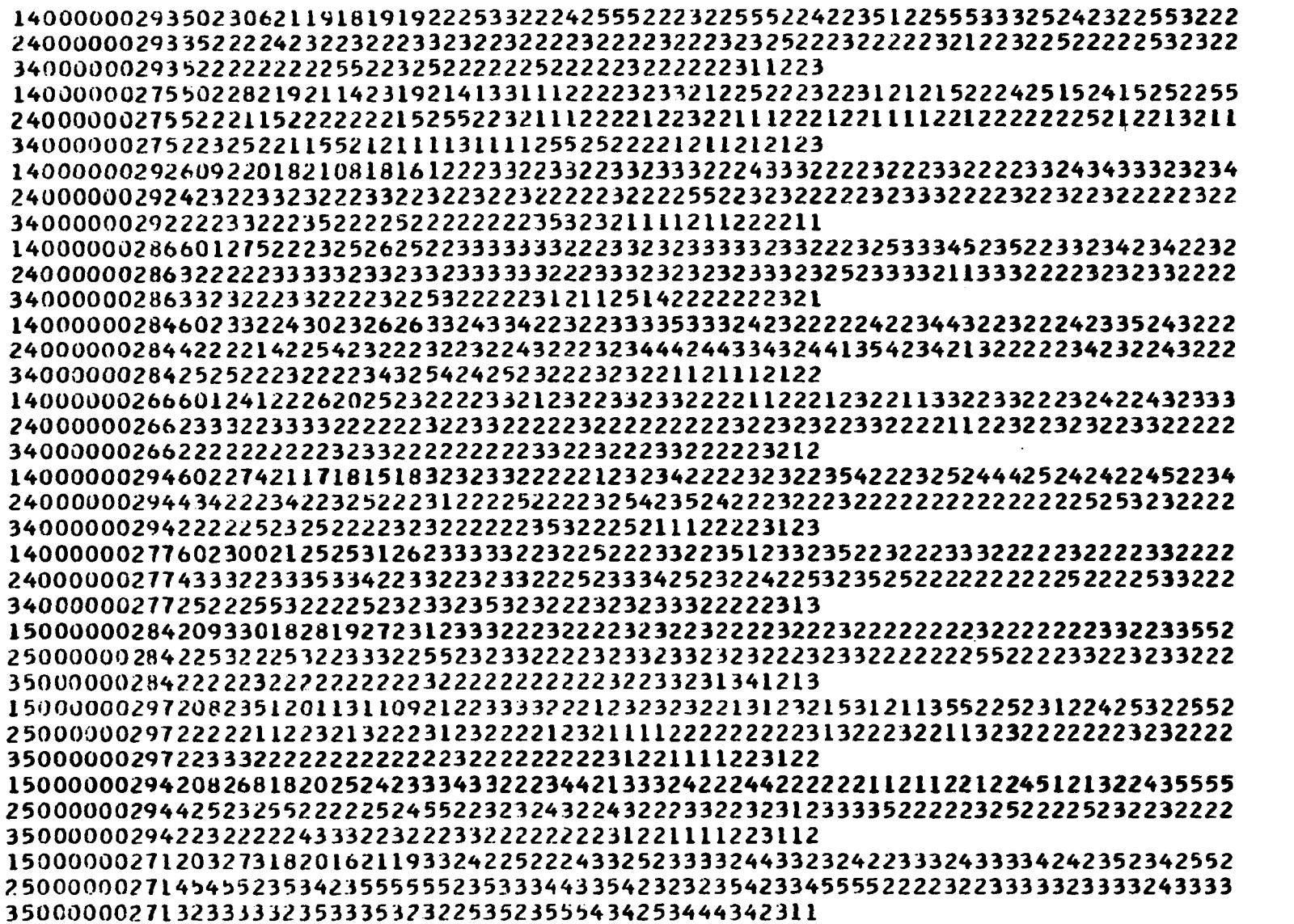
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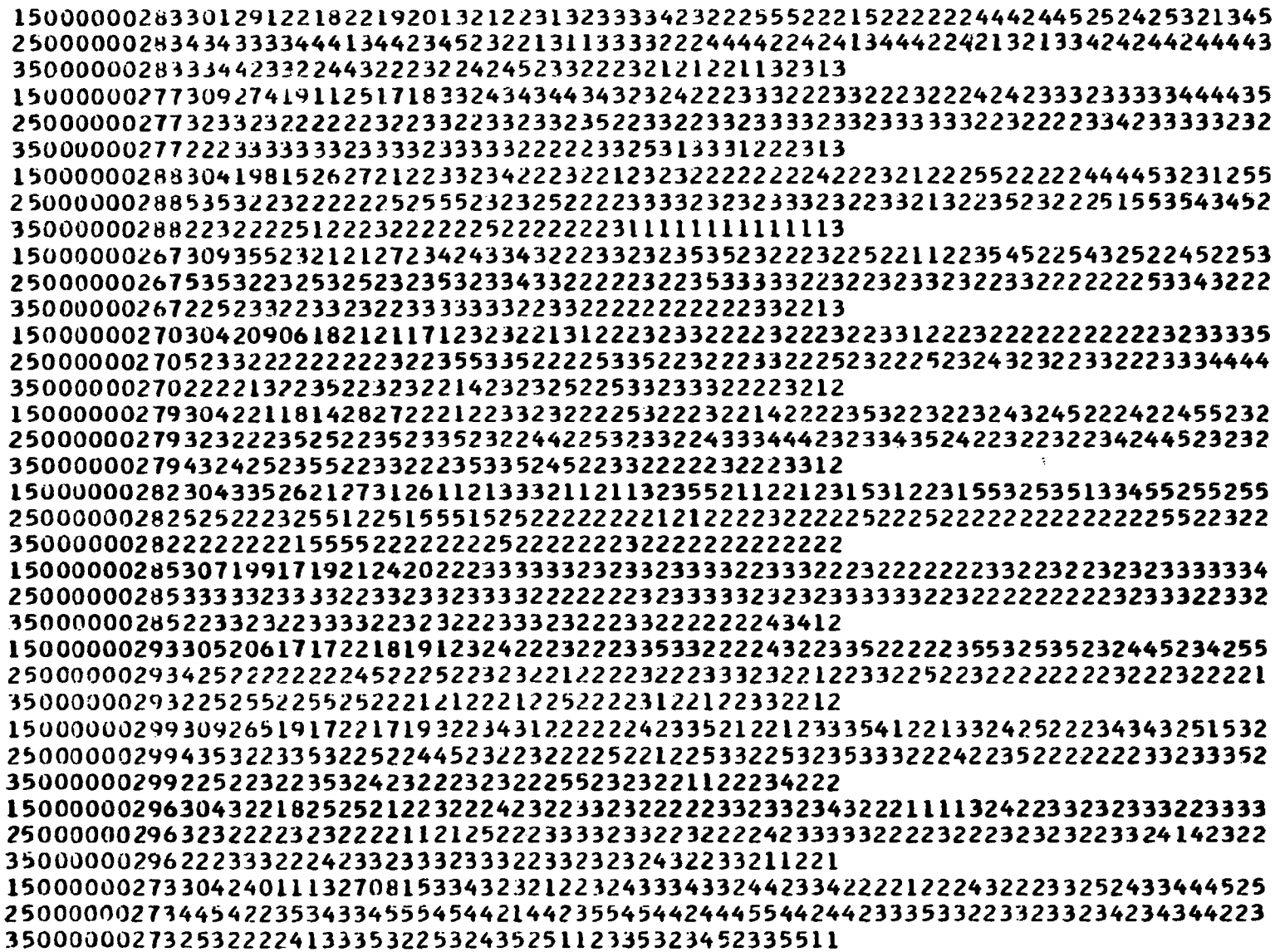


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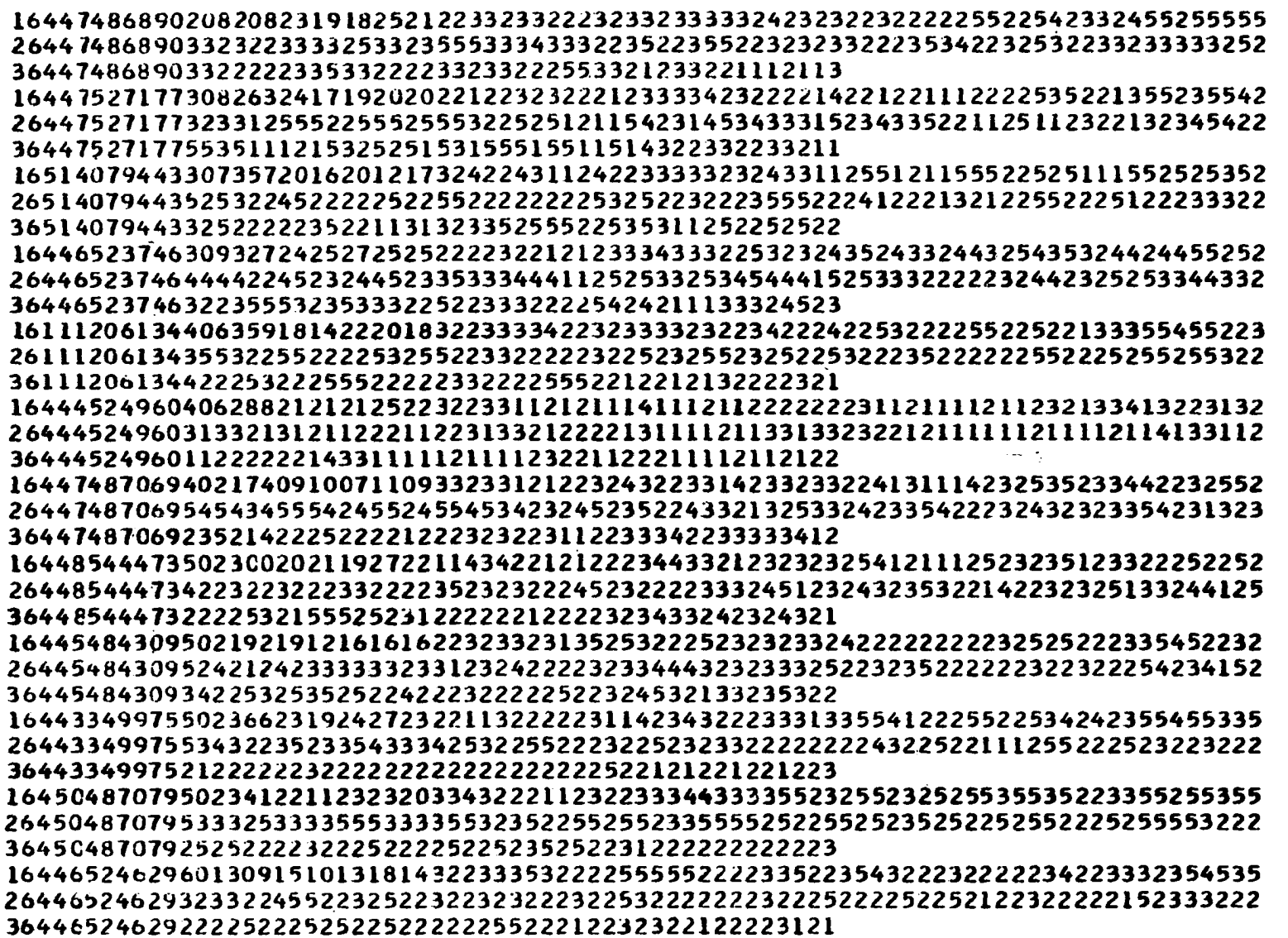

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