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COMMUNITY COLLEGE ENVIRONMENT — NEGLECTED RESEARCH IN CANADA²

ABSTRACT: Research has suggested the importance of institutional environment on the development of college students. This paper discusses the nature of such research in higher education and more specifically community colleges.

Supporting a plea for more research in the assessment of college environments in Canada, major environmental measurement instruments are reviewed in detail showing the relationship of the various techniques.

In order to encourage more research in this domain, educational and methodological implications of pursuing this research in Canada are discussed.

INTRODUCTION

Institutions of higher education may be regarded as systems of pressures, practices, and policies which influence the development of students toward the attainment of certain institutional objectives. These systems are a result of all types of input variables which interrelate to form the "environment" of the institution. Astin (1968) defined the concept of environment as "any characteristic of the college that constitutes a potential stimulus for the student (p. 3)."

Studies of college environment have attempted to deal with the general questions of socialization posed by writers who indicate that peer groups influence the attitude and performance of their members (Asch, 1952; Cartwright & Zander, 1960; Hare, Borgatta, & Bales, 1955; Newcomb, 1950, 1961, 1966; Sherif & Sherif, 1956; Thibaut & Kelly, 1959). Further, environmental studies have attempted to provide information that will serve as a basis for alteration or changes in environment and to provide information for prospective students that will "facilitate their adaptation to the college environment which will minimize the gap between expectations and reality (Menne, 1967, p. 221)." The specific question of environment grows out of the broader problem of "what kind of person is likely to have what kind of success in what kind of college (Barton, 1959, p. 6)?"

D'Oyley (1970) referred to a study by Johnston (1969) encouraging "speedy" follow-up of environmental research in Canadian community colleges. To date no published research has been located.

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RELATED RESEARCH

Background Research

It is difficult to determine the exact forerunner of the interest in measuring environments in institutions of higher education. Conventional criteria for describing institutions of higher education emphasize two general input variables: the students and the characteristics of the institution. The difficulty of these variables in describing successfully what influences impinge upon a student during his college career and to predict the resultant changes that will occur in the development of the student has been shown by a long list of writers (Beck, 1947; Berelson, 1960; Buley, 1947; Haggerty, 1936; Knapp & Goodrich, 1952; Lazarsfeld & Thielens, 1958; Learned & Wood, 1938; McGrath, 1936; Rogoff, 1957; Russell & Reeves, 1936). These studies have covered the input variables of student aptitude and age, student body size, qualifications of staff, board members, endowments, books, and published articles, among others. These studies have attempted to explore the measures that Clark and Trow (1966) have called the "two broad sets of factors [that] shape the nature of the orientations and relationships of students in college (p. 18)." The first set is that which the student brings to the school, factors such as intellect, emotion and material resources; the second is derived from the nature of the school itself, factors such as rules, regulations, resources, staff, and history.

The study of environments in many institutions has preceded and paralleled the concern for environmental assessment in schools. Katz and Kahn (1966) have attempted to look at the social psychology of organizations and Presthus (1962) assumed in his studies that "social values and institutions mold individual personality and behavior... through a process called socialization, and personality is mainly the result of social interaction rather than biological impulse (pp. 7-8)."

A study that succinctly described the dilemma of assessing the impact upon college students was done by Jacob (1957). The goal of Jacob's study was to "see what changes do occur in students' patterns of value during college (pp. 12-13)." This study, using five instruments, was able to conclude that "there is more homogeneity and greater consistency of values among students at the end of four years than when they begin (p. 4)." However, the researchers were unable to attribute this change to curriculum in general, basic courses in the social sciences, method of instruction, or instructors. Barton (1959), although critical of the study, did concede that the conclusions provided a set of "challenging hypotheses."

Jacob did conclude, however, that in certain institutions "the intellectual, cultural or moral climate... stands out from the crowd," that "students seem drawn to live up to the college standard even if it means quite a wrench from their previous ways of thought, or a break with the prevailing values of students elsewhere" and finally that "an institution acquires a 'personality' in the eyes of its students, alumni and staff (p. 9)."

Among the conclusions of this research was one indicating that a major problem meriting further study is a need to determine what factors are responsible for the unusual influence upon student values which occur in some institutions.

College Environment — Effect Upon Student Development

The importance of the institutional environment factor has been discussed by many writers. An early study by Learned and Wood (1938) demonstrated that student performance varied with the academic ability of their peers. Students who went to college where the average ability was high performed significantly better on comprehensive tests of achievement than did students of the same initial ability who went to colleges where the average ability was low. Newcomb (1943), at Bennington College, attributed large changes in student attitudes toward social-political-economic issues to the prevailing climate of opinion in the compact Bennington College environment.

In Minnesota's General College, where pressures on students to be interested in current affairs came from many aspects of the total program, Eckert (1943) found that student achievement on a current affairs test was close to the 70th percentile of national sophomore norms for the test, despite the fact that General College students were at the 35th percentile of junior-college norms on measured college aptitude.

In recent studies by the National Merit Scholarship Corporation, using the College Characteristics Index and a modified group of environmental press scales, Thistewhaite (1959) demonstrated that the college environment was an important determinant of a student's motivation to seek advanced intellectual training. Moreover, the ethos of colleges high in natural science productivity was distinct from that of colleges excelling in the production of potential doctorates in the humanities and social sciences.

In a study conducted in nine colleges, Pace (1964) concluded that there was a definite relationship between compatibility of students to the college environment and academic success. He felt that there was a definite relationship between compatibility of an institution.

Feldman and Newcomb's (1969) review of the research in this field is probably the most extensive and authoritative available to date.

Community College Environments

Researchers of campus environments have, for the most part, neglected the community college. Commencement of this field of study has posed two issues: do community college environments vary from four-year schools, and can the established instruments be used in the two-year school?

The most extensive research in this area has been done by Hendrix (1967) in which he took an expanded version of College and

University Environmental Scales (CUES) and normed it in one hundred United States community colleges. Gold (1968) produced a report on the results obtained at Los Angeles Community College.

Conclusions drawn from these studies were summarized by Pace (1967, p. 4): (1) the item content of CUES is appropriate for junior colleges; (2) the scores obtained by junior colleges are about what one would expect in comparison with liberal arts colleges and universities; (3) the differences among junior colleges are not nearly as large as the differences between universities or between liberal arts colleges; (4) this relatively greater homogeneity may be a valid judgement about junior colleges in general, or it may be peculiar to the Minnesota, Texas, and California schools that were studied; and (5) while many of the present CUES items do not discriminate well among different junior colleges, one cannot say whether this is the fault of the test items or an accurate reflection of junior-college environment.

Other studies assessing perceptions of environments of community colleges have been isolated and lack a sequential development. Examples are a study by Greer (1966) using an adjectival scale to obtain the view of college seniors of community colleges and a report by Hoyt (1968) summarizing the American College Testing data.

MAJOR ENVIRONMENTAL MEASUREMENT INSTRUMENTS

Sociological Studies

Sociological descriptions and more recently some exploratory attempts at instrumentation have had an influence upon the measurement of college environments. Clark and Trow (1966) developed a model with four student cultures in which they identified collegiate, vocational, academic, and non-conformist groups. Initial attempts at instrumentation of this model have been completed by Gottlieb and Hodgkins (1963) and Mauss (1967). To date, work with this model has been primarily theoretical with controlled studies involving only small groups of students.

Another major work in this area has been written by Riesman and Jencks (1962) in which they have attempted to describe all of the sociological influences which impinge both externally and internally upon the college and the student. Freedman (1956) has provided a descriptive study of life at Vassar College. He commenced with a description of the freshman's culture and then progressed through each class level.

An early study in this area, which was carried out by Kelley (1949) through a system of interviews and questionnaires mixed with theoretical propositions, defined colleges as "cultural matrices" with each college being different. She stated that culture "sets the chief framework within which the individual learns to function with his fellows: the mores grow out of this culture (p.x)." The mores are defined as "ways of doing things to satisfy human needs (p.x)."

College Characteristics Index

Work in the area of measurement of what is being called college environment was first dealt with in a "systematic empirical approach (Astin, 1968, p. 6)" by the College Characteristics Index (CCI) of Pace and Stern (1958a). The CCI was developed by George Stern of Syracuse University and Robert Pace, now at the University of California, Los Angeles. The CCI reflects an interest on the part of Stern in personality assessment as reflected in his work with Bloom (Stern, Stein, & Bloom, 1956) and Pace's interest and previous work in evaluation and measurement in higher education (Pace, 1963; Troyer & Pace, 1944).

The work of Stern indicated that the performance of individuals could be predicted with greater accuracy than had previously been the case when "both the individual and the environment are considered (Stern et al., 1956, p. 253)." The basis for these studies was Murray's (1938) needs-press concept. The concept of need refers to the significant determinants of behavior within the person, and the concept of "press" represents the significant determinants of behavior in the environment.

The initial research proposal on the CCI conducted by Stern and Pace under the aegis of the College Entrance Examination Board was designed "to see whether the instrument could be constructed which would express, in some way, the complex intellectual-social-cultural atmosphere of different colleges (Pace, 1963, p. 5)." The thirty personality needs adapted from Murray (in Stern's *Activity Index*) were translated into environmental counterparts and used as the framework for writing environmental press scales for the CCI. The CCI items were thus conceived in part as aspects of an environment which might be satisfying (or frustrating) to students having various personality needs.

The first version of the test was normed in five colleges. The results of this initial study were published by Pace and Stern (1958a, 1958b) and then new data were obtained and analyzed from twenty-two colleges. After a third revision of the scales, Pace left the partnership and the current edition of the CCI (Form 1158) is the sole work of Stern.

There are two ways of viewing the three hundred items in the CCI. The first is a psychological approach in which the responses of individuals are the primary concern and the thirty environmental press scales are assumed to be counterparts of the thirty personality need scales in the Stern Activities Index (AI). "To the degree that the AI-CCI scales are, in fact, parallel, one can then study the utility of need-press congruence as a predictor of personal satisfaction and performance in the environment (Pace, 1963, p.7)."

The strategy for analyzing AI-CCI relationships is one which takes the responses of the same set of individuals to both instruments as the unit of study (Stern, 1967). An analysis of these individual responses suggests which personality need variables tend to cluster together across a sample of individuals. Results of studies in this area as reported by Saunders (1962) indicated that except for one

large joint factor which concerns intellectual needs and the intellectuality of environments, each instrument produced its own unique set of factors. The result was that with this one exception the two instruments were not entirely parallel.

The second approach to the use of this instrument has as its purpose the derivation of individual institution scores and norms. In this way there can be a direct analysis of environmental differences between institutions with no reference to any personality measures. The focus is on discovering patterns which best characterize environments, and, for this purpose, the unit of analysis is the college, not the individual. The results are reported in terms of a composite of beliefs as to how the individuals in the college perceive the characteristics of that college. Institutional differences then become the central concern.

College and University Environmental Scales

It was the results of the latter study with the CCI that Pace followed in producing the College and University Environmental Scales. Fifty institutions were selected on a representative basis from the Directory of the American Council on Education (Irwin, 1960) and the CCI was administered to samples of students. Factor analysis of the data produced five meaningful factors and items composing these factors were identified. The result was 150 items reorganized into five scales of 30 items each. "The focus was, first, to identify a set of dimensions along which college environments differed from one another, and second, to measure these dimensions by a set of items which most clearly and sharply reflected the differences between environments (Pace, 1963, p.17)." The five dimensions are: practicality, community, awareness, propriety, and scholarship.

The rationale for the CUES is that because the CCI did not parallel personality factors of the AI but did identify environment, it was decided to refine an instrument that would identify "environmental press" in its own right.

Environmental Assessment Technique

Astin and Holland (1961) were dissatisfied with the CCI and CUES because each was comprised of "impressionistic items concerned with the college image (Astin, 1968, p. 7)." They felt that the student was probably responding according to what he thought of the college image as compared to what, in fact, he contributed to the environment. This is more of a student characteristics approach.

Based on the assumption that what needed to be measured were mainly input variables, the Environmental Assessment Technique (EAT) was developed. This instrument collected information on eight characteristics of the student body: average intelligence, size, and six personal orientations based on the proportion of the students in six areas of study: realistic, scientific, social, conventional, enterprising, and artistic. The classification of the major field choices was based on Holland's (1959) theory of personality types and "the

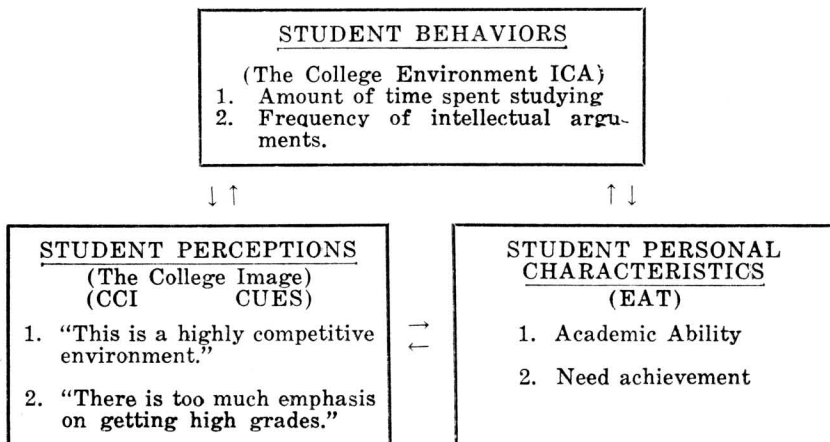
student's choice of a major field of study is regarded as a miniature personality 'test' (Astin, 1968, p.8)." In a number of instances (Astin and Holland, 1961; Astin, 1963) studies have shown high correlations between relevant EAT and CCI variables.

The Inventory of College Activities

Following his studies with EAT, Astin commenced work on a new instrument entitled The Inventory of College Activities (ICA) (Astin, 1968). The development of the ICA was based on the assumption that none of the previous work in this field had met the criteria of measuring potential student stimulus which was defined as "any behavior, event, or other observable characteristic of the institution capable of changing the student's sensory input, the existence or occurrence of which can be confirmed by independent observation (1968)." He felt that both the "image" approach of CCI and CUES and the student characteristic approach of EAT did not fully meet the criteria of measuring student environment.

Astin's goal in designing the ICA was "to identify as many environmental stimuli as possible that could be observed by undergraduate students and reported in a questionnaire (1968, p. 9)." Four areas of stimuli were considered: peer environment, classroom environment, administrative environment, and physical environment. A factor analysis of the results after administering the questionnaire in 246 institutions resulted in 27 environmental factors (Astin, 1968, p. 119) and eight measures of college image (Astin, 1968, p. 120).

In order to clarify the basic differences in approach used by these three major instruments, Astin (1968, p. 9) has attempted to diagram the techniques as follows:.



EDUCATIONAL IMPLICATIONS OF ENVIRONMENTAL RESEARCH

A review of the literature reporting on studies completed in the United States provides a long list of possible research ideas.

There has been considerable evidence that freshman students entering a school have inaccurate perceptions of the school they enter (Berdie, 1968; Johnston, 1969; Wallace, 1966). Inaccurate perception of the community college by prospective students may raise the question of the interpretation of the function of such schools. The students entering the community college may be anticipating a university education which is not being offered.

Considering the different perceptions of prospective community college students, an interesting study might follow a similar pattern to that of Seymour (1968) and view the perceptions of the community colleges held by high-school counsellors responsible for guiding their students to the school. Perhaps counsellors should have a report indicating the student perception of the environment of colleges in their area.

Further research might also attempt to discover whether various subcultures on the community college campus (e.g., transfer *vs.* terminal students) hold different perceptions of the school's environment. This type of characterization might also be profitable in classifying perceptions of prospective students.

An interesting hypothesis might be formulated in the area of campus unrest. Is unrest due to dissonance between expectation and reality? Perhaps a survey such as that completed by Winborn and Jansen (1967) might result in information about social-political action leaders and how they perceive their school's environment compared to the passive students. Brown (1967) very definitely believes that unrest is due to a dissonance between expectations and reality.

Responsible administrators at the schools may very well want to consider the possibility of obtaining environmental information in order to attempt to influence the environment in desirable directions. Learning is central to the educational objectives of a school: therefore, its enhancement is basic to all administrative decisions. One of the major tasks of the educational administrator is to understand the complex totality of environment and to modify appropriately activities which will improve the learning climate.

Foxley (1969) has completed a study in this vein to measure the effect of an experimental orientation program on college environment. Walsh and McKinnon (1969) used this technique to explore the impact of an experimental educational program on environmental perceptions.

An interesting field of study in Canada would be to compare the perceptions of school environment reported by students, instructors, and administrators. If staff are to function as meaningful agents of change on a school campus, clear perceptions of existing student attitudes are needed. Ivey, Miller, and Goldstein (1967) report a considerable difference existing at Colorado State University.

Researchers might well consider this field of study when viewing the school dropout. For decades, research has looked at the student for reasons why there are dropouts. Might not some of the factors be contained within the school environment? Stern stated this well when he said that "the problem with respect to colleges is essentially one of finding better ways of characterizing their differences, those differences in particular that relate to what the college does to the student (Stern, 1967, p. 3)." Shaw (1968) and Connor (1968) have attempted studies comparing the environmental perception of dropouts with non-dropouts. Perhaps the instrument might be adapted in order to question the dropout about what he would "ideally like" in a school environment.

METHODOLOGICAL IMPLICATIONS OF ENVIRONMENTAL RESEARCH

Prior to commencing this type of research in Canada, the researcher may be well cautioned to consider some methodological problems. These problems may in fact provide some research possibilities in themselves of interest to those not interested in the applied research ideas previously outlined.

Instruments used should be reviewed for a number of considerations.

1. The wording might be changed to allow for some distinctly Canadian situations.

2. The wording might be changed in order to develop an instrument more appropriate for community colleges and technological schools. Hendrix (1967) has initiated this type of study with CUES.

3. The instrument might be updated to include questions on areas such as "participatory democracy," "sit ins," and "student involvement."

4. The instrument or an updated version might be administered to large samples of students in a variety of schools and then a factor analysis should be done, as did Gold (1968) with CUES, in order to determine whether the original factors are still valid in new situations.

5. Instruments such as CUES which tap a perceptual component might be contrasted with an "activity" type instrument (Astin, 1968) in order to determine whether they validate one another.

Considering the validity and reliability of the instrument, a wide variety of studies might be initiated. Previous research in the area indicates that CUES is a relatively valid and reliable instrument. However, unpublished studies in progress by Grande and Loveless (1969) raise questions such as: Do factors vary from one campus to another? Do expectations vary depending upon geographic location? Do students compare their school to nearby schools? Should items be included in the instrument that pertain to particular schools? A recent study (Younge, 1968) showing the systematic individual differences in perception of environment by students with different Omnibus Personality Inventory scores raises questions about sampling procedures using CUES.

It is difficult, if not impossible, to attempt to place the educational and methodological implications in a hierarchy. Pace states this well when he says "the fullest advancement of understanding about college cultures and their impact on students will come not only from applying the most rigorous methods, but from using a variety of methods of exploring the wisest questions we can formulate (Pace, 1968, p. 203)."

In conclusion, it appears that there is a wide field of research available in Canada exploring the field of college environments. This is a field of study that has been recently widely explored in the United States, but heretofore ignored in Canada.

RESUME: La recherche a fait ressortir l'importance de l'environnement institutionnel dans le développement des étudiants au niveau collégial. Le présent article porte sur la nature de cette recherche ayant trait à l'éducation supérieure et plus particulièrement au collège local (community college).

Plaidant en faveur de la recherche dans l'évaluation de l'environnement collégial au Canada, l'auteur fait une revue détaillée des principaux instruments de mesure de l'environnement en faisant ressortir la relation qui existe entre les différentes techniques.

En vue d'encourager la recherche dans ce domaine au Canada, l'auteur en discute les implications éducationnelles et méthodologiques.

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