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ABSTRACT

The methods used and substantive topics addressed in various kinds of college student research published between 1969 and 1983 were studied. The RAND Case Survey Method guided the development of the instrument and data collection. One of five reviewers read each of 1,189 articles and completed a questionnaire to analyze the article. The primary data gathering tool was the College Student Research Case Study Questionnaire. Topics were classified into five categories: behavior (e.g., achievement, extracurricular activities); selected student characteristics (e.g., career interests, ethnic group); student development (e.g., moral/ethical); instruction (remedial), and miscellaneous (e.g., finances). Notes were also made on sample characteristics, the kinds of data collection methods and sources of data employed in each article, and design and analytical techniques that were used. The primary and secondary thrusts of the article were also identified, and the reviewer attempted to determine whether a theory base had been used. Conclusions included the following: most studies employed pencil and paper instruments administered to relatively large combined gender samples, and most articles were about students attending public, doctoral-granting institutions. (SW)

CHANGES IN TYPES, TOPICS, AND METHODS EMPLOYED IN COLLEGE STUDENT RESEARCH BETWEEN 1968 AND 1983

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This paper was presented at the Annual Meeting of the Association for the Study of Higher Education held at the Conrad Hilton Hotel in Chicago, Illinois, March 12-14, 1984. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

Changes in Types, Topics, and Methods Employed in College Student Research Between 1969 and 1983

Systematic reviews of the research on college students have been conducted periodically (e.g., Jacob, 1957; Feldman & Newcomb, 1969). Such reviews have succinctly summarized what is known about the growth and behavior of college students at a particular point in time and have also suggested areas in which further research would be useful. Many issues related to college student research are typically not addressed in such reviews. For example, to what extent do the topics studied and methods employed change over time? For example, were more articles focused on minority and commuter students published in the 1980s compared with the 1970s? Has there been a shift from the use of descriptive methods to analytical techniques?

The purpose of this study is to describe the methods used and substantive topics addressed in various kinds of college student research published between 1969 and 1983. The following questions guided the study:

(1) Have the types of college student research reported in selected journals changed between 1969 and 1983?

(2) Have the substantive topics appearing in these journals changed?

(3) Have the methods used in the study of college students changed during this period?

(4) Do particular journals exhibit a preference for certain types of college student research?

Perspectives

To analyze the college student research, a framework was needed within which contributions to the literature could be classified. Two perspectives were used to develop the framework: knowledge classification schemas in general; and (2) knowledge production related to college students.

Knowledge Classification Schemas

The status and social utility of a field of study can be estimated in different ways; e.g. the number and quality of scholarly publications devoted to the field, the field's contributions to society chronicled in its publications and in the popular media, and the extent to which personnel in allied fields use the information and innovations developed by the field. One rationale for the importance of college student research is that faculty and student services staff familiar with students' changing characteristics and needs will better understand their constituents, and will therefore be more effective (Stamatakos, 1981; Wilensky, 1964).

Developing a typology of the knowledge produced in a field is an integral step in understanding that knowledge. Typically, the advance organizer or guiding principle in a knowledge typology is "intended use of knowledge" such as drawing conclusions, developing policies, and synthesizing concepts (Culbertson, 1977; Kellams, 1975). Knowledge typologies can also be used to estimate the [illegible] contributions to a field. For example, Silverman (19[illegible]) argued that the value of a scholarly contribution at a specific point in the development of a field will be best understood by considering the methodo-

logical approaches used by the inquirer and the kind of information with which the inquirer is dealing.

Silverman demonstrated this notion using a four celled typology developed by Mitroff and Kilmann (1978). In this typology, the "analytical scientist" represents an aloof, objective inquirer with an acknowledged preference for quasi-experimental methods. In contrast, the "conceptual humanist" recognizes the importance of the subject's interpretations of reality to "knowing" and attempts to get close to and appreciate the subject's affective response to an event to more fully understand the behavior or event under investigation.

The conceptual humanist and the analytical scientist approach the subject of the inquiry differently; therefore, the phenomena they observe and the way in which they interpret their observations are likewise different. According to Silverman it is important for a field to periodically assess whether certain perspectives are favored by the scholars contributing to a field to determine whether systematic but unrecognized biases may be influencing the information disseminated to the consumers of knowledge in that field.

As a field of study evolves over time, the types of knowledge produced and the methodological techniques employed to produce knowledge are likely to become more sophisticated. During the nascent development of a field, or a period of rapid change in the field's core activities, a disproportionately large number of descriptive studies usually appear. In the former instance, such profiles serve to delimit the boundaries of a field; in the latter, descriptive information is used by practitioners as a barometer of changes in standard practices in the field. Borrowing methodological advances from allied disciplines

improves the validity of precepts and assumptions on which the field is based. For example, theories about college student behavior can be rigorously examined through the use of multivariate techniques developed in such fields as sociology and psychology. As the knowledge base of the field expands, syntheses of earlier descriptive contributions and analytical frameworks appear with increasing frequency (c.f., meta analysis). An important function of a knowledge synthesis is to identify trends in practice and to reexamine assumptions on which certain practices of a field have been grounded.

College Student Knowledge Production

Interest in the behavior of college students "can be traced in one form or another to the beginnings of the university as an institution in modern society" (Parker, 1978, p. 3). However, since the late 1960s, the number of theories describing students' intellectual and social-emotional development during the college years has increased almost exponentially. Just as Jacob's (1957) landmark volume spawned a multitude of descriptive studies of college students during the 1960s, the contributions of Chickering (1969), Erikson, (1968), Perry (1970) and Sanford (1962) were harbingers of a decade of theory development during the 1970s. Currently, numerous models and theoretical formulations exist which represent careful data-based efforts to describe college student behavior from a developmental perspective (e.g., Cross, 1976; D. Heath, 1968; R. Heath, 1964; Hunt, 1970; Kohlberg, 1975; Levinson, 1978; Vaillant, 1977). In addition, in the 1970s, two new journals have appeared which feature papers reporting research on college students, Research in Higher Education and Review of Higher Education. Also, the Journal of College Student Personnel which is

devoted almost exclusively to papers reporting some aspect of the college student experience has increased the number of volume pages by about 20% since the late 1960s. While the college student literature is now more voluminous, richer, and more differentiated, scholars and practitioners alike must grapple with the attendant problems identified by Parker, Widick and Knefelkamp (1978): "(1) how to keep up with the knowledge explosion; (2) how to make sense of the many models; and (3) after understanding them, how to translate them into useful and helpful tools..."(p. ix).

Related Literature

Attempts have been made to classify knowledge produced in in areas of professional service related to college students. For example, Kuh and Bursky (1980) developed a schema with four categories (philosophical/theoretical, research/evaluation, literature review, program description) to determine the frequency with which certain types of articles appeared in four student affairs journals (Journal of College Student Personnel--JCSP, National Association of Student Personnel Administrators Journal--NASPA, National Association of Women Deans, Administrators and Counselors Journal--NAWDAC, Personnel and Guidance Journal--P&G) between 1970 and 1978. This schema was intuitive rather than derived emprically or synthesized from the extant knowledge production literature. In the same field, Hood, Hull, and Mines (1983) estimated the extent to which one journal, JCSP, published information relevant to specialty areas within student affairs work (e.g., residence life, admissions, orientation, etc.).

Another illustration of analyzing the material published in a

scholarly journal is Hayes and Kenney's (1983) use of popular social sciences research designs to categorize the counseling psychology research. They reviewed and classified the articles appearing in the Journal of Counseling Psychology (JCP) between 1954 and 1980 into one of four categories: (1) mechanical mirror--a controlled experiment in which the investigator assumes an objective posture; (2) psychoanalytic--the investigative mode is intuitive interpretation; (3) organic lamp--using the scientific canons of field work (e.g., ethnography), the investigator purposefully interacts with the subjects to record behavior from an in situ perspective; and (4) eclectic--elements of two or more of the above approaches are combined. Hayes and Kenney found a preponderance of "mechanical mirror" entries in JCP during this period and also noted that subtle shifts occured in the proportion of the kinds of articles published when editors changed. These inquiries were not focused specifically on the literature describing college student behavior and development. They served to update the members of the journals' sponsoring associations about the nature of the material appearing in the respective periodical.

Several efforts have been made to synthesize the various models or theories of college student development. Parker et al.(1978) developed five theory clusters in which extant models could be categorized: psycho-social, cognitive-developmental, maturity, typology, and person-environment interaction. Rodgers (1980) offered a somewhat different schema: cognitive developmental, psycho-social, person-environment interaction, humanistic existential, and human development process models. No systematic effort has been made to document the changes in the kinds of empirical research conducted to verify theories of student behavior. Nor has an effort been made to describe researchers' metho-

dological and substantive preferences in the published studies on college students. To accomplish these tasks, a typology is needed to codify these different kinds of research.

A Typology For Synthesizing College Student Research

To categorize the research about college students published between 1969 and 1983, a knowledge schema developed by Bradley, Coomes and Kuh (1983), synthesized from extant typologies developed by Culbertson (1976), Kellams (1975), and Silverman (1982), was used. The Bradley et al. schema has six categories.

(1) Descriptive articles sort or arrange information about college students into meaningful categories for visual or statistical comparisons. However, prediction, hypothesis generation, theory development and/or policy implications are either not included or receive only cursory attention.

(2) Theory development articles aim to establish causal relationships among sets of variables or to test models based on principles directly derived from observation or reference to other theoretical formulations. The distinction between this type of inquiry and others is the intended generalizability of results and the prediction of behavior across a wide range of settings.

(3) Concept integration papers produce new knowledge about college students through analysis and integration of existing ideas. Data are usually collected from multiple sources such as literature reviews and case surveys and are analyzed through sifting, classifying, and differentiating pertinent variables.

(4) Policy formulation articles describe how policies related to

student behavior in institutions of higher education are created, the manner in which policy is enacted by institutional agents, and how policies related to student life can be modified and improved.

(5) Decision-making articles provide information to assist institutional agents in evaluating curriculum and student life programs and personnel and often takes the form of summative evaluation strategies, program reviews, and personnel and program evaluations.

(6) Developmental papers include detailed descriptions of innovations in areas such as curriculum, residential living environments, and faculty mentoring or peer assistance programs designed to enhance the quality of student life. Characteristics of developmental inquiry typically include field testing and the use of strategies such as media or formative evaluation by institutional agents to solve particular problems or attain institutional purposes.

Methods

The RAND Case Survey Method (Yin & Heald, 1975) was used to guide the development of the instrument and data collection. Case survey methodology was originally designed to gather information from existing documents in much the same way an interviewer uses a structured protocol to collect information from an interviewee. In this study, each relevant article was considered a case. One of five reviewers read each of the articles and completed a questionnaire developed for the purpose of analyzing the article.

Instrumentation

The primary data gathering tool was the College Student Research Case Study Questionnaire (CSRCSQ). The final version of the instrument

was subdivided into four sections. In Section I, pertinent information about the article was recorded (i.e., journal source, year published, issue number, number of male and female authors, and number of articles appearing in the respective issue.

In section II, the extent to which one or more substantive topics were addressed in the article was noted. Five major categories were used within which topics were grouped:

(1) Behavior--achievement, admission/matriculation, alcohol/drugs, attrition/persistence/retention, academic dishonesty, sexual activity/preference, and student activities including participation in student government and other leadership functions;

(2) Selected characteristics--aptitude, vocational and educational aspirations and interests, attitudes/perceptions/expectations, commuters, educationally disadvantaged, foreign, fraternity/sorority, graduate/professional, handicapped, health/suicide, ethnic group (race, religion), older (25 years of older), personality characteristics/functioning, socioeconomic status (SES), transfer, veterans, and women;

(3) Student development--career/vocational, cognitive/intellectual, moral/ethical, social/emotional;

(4) Instruction--developmental/remedial/compensatory/study skills, evaluation of instruction; and

(5) Miscellaneous--finances, learning styles/preferences, living environments/campus ecology/ student-faculty interaction, students' rights/legal issues/discipline, and an "other" category.

The rater was to determine whther the substantive topic was the primary focus of the article (i.e., the article title, conceptual

framework and data gathering tools and techniques address the topic which is often conceptualized as the independent variable), the secondary focus (i.e., the article includes or mentions the topic or variable but is subordinate to one or more primary topics or independent variables), not included, or uncertain as to how to code the topic.

Section III of the CSRCSQ was divided into three categories. For each article, the following sample characteristics were recorded: the site of the investigation (i.e., single institution, multiple institutions, national, uncertain, or not applicable--NA; institutional support (i.e., public, private, both, uncertain, NA) type of institution (community college/vocational-technical, baccalaurate, masters level, doctoral granting, multiple institutions, other or NA); total analyzed sample size (in the event two or more experiments or studies were reported in the same article, the sample sizes were "pooled" to determine the total analyzed sample size), participants' gender, and whether the sample was comprised of an ethnic group.

The kinds of data collection methods and sources of data employed in each article were also noted: standardized or locally developed pencil and paper instrumentation, interview, observation, field or laboratory experiments, document analysis (academic transcripts, test scores, etc.), review of published or fugitive literature, anecdotal, and "other".

The third subsection addressed the design and analytical techniques employed in the article: descriptive (e.g., frequencies, mean, etc.), univariate, multivariate, reliability estimates, data reduction (e.g., factor analysis, cluster analysis, etc.), other statistics, and the design of the study (i.e., longitudinal, cross sectional or a combination of the two).

The final section of the CSRCSQ requested the reviewer to determine the type of article using the categories developed by Bradley et al. (1983) described earlier. Because articles could conceivably encompass elements of several categories, the following coding system was used: (a) primary thrust--elements of this category dominate and the paper was developed primarily if not exclusively with this purpose in mind; (b) secondary thrust--the paper reflects elements of a category which are complimentary but secondary to elements/characteristics of another category; (c) uncertain. In addition, the reviewer attempted to determine whether a theory base had been used to develop the arguments state the problem and/or interpret the results.

Data Sources

The analyzed articles reported college student research or some aspect of student life and appeared in the following periodicals: American Educational Research Journal (AERJ), Journal of College Student Personnel (JCSP), Journal of Counseling Psychology (JCP), Journal of Educational Psychology (JEP), Journal of Higher Education (JHE), National Association of Student Personnel Administrators Journal (NASPA), National Association of Women Deans, Administrators, and Counselors Journal (NAWDAC), Personnel and Guidance Journal (P&G), Research in Higher Education (RHE), Review of Higher Education (RevHE) and Sociology of Education (SocE). These journals were selected because they are known to publish research or other types of papers describing the college student experience, and are refereed thereby suggesting some degree of quality control over what is published. All articles in all issues of these periodicals from every other volume

year beginning in 1969 through 1983 were reviewed. Letters to the editor, research notes, book reviews, editorials and similar information were not included.

Procedures

Using the procedures suggested by Yin and Heald (1975), the version of the the CSRCSQ used to collect the data was revised several times after pilot tests. The first draft was developed based on conversations with several college student researchers and the Bradley et al. schema. This version was critiqued by the other members of the research team, revised, critiqued again and revised once more before the reviewers used the instrument to collect information from sample cases. Four articles from three journals spanning the period covered by the study and representing different types of papers (e.g., descriptive, theory development, etc.) were selected to field test the CSRCSQ. After each reviewer independently used the CSRCSQ with each article, the reviewers discussed their experiences and findings, and made suggestions for improvements in the CSRCSQ. After this discussion, another version of the instrument was prepared. Each reviewer was then assigned to review articles in specific volume years for certain journals. To increase reliability of reviewers' ratings, the reviwers met weekly to report their progress and to discuss particularly troublesome cases. All of the articles were reviewed within a six week period.

Five members of the research team reviewered articles, two faculty and three higher education doctoral students. All of the reviewers had previous experience in conducting and publishing research on college students.

For each major CSRCSQ subsection (i.e., substantive topic, sample

characteristics, data collection, design and analytical techniques, and type of article), reviewers indicated their level of confidence (high, moderate, or low) in the category rating. Indicating the certainty of the reviewer's confidence in the ratings permits ratings in which investigators have limited confidence to be omitted from certain analyses of the data thereby potentially increasing the reliability of the findings.

According to Tinsley and Weiss (1975), the most appropriate statistic for estimating interrater agreement on nominal data is Cohen's kappa. However, this statistic cannot be calculated for three or more raters reviewing the same article. The only meaningful estimate of interreviewer agreement known to the authors for use with multiple raters of nominal data is the proportion of items on which reviewers agreed (P=same identical rating). Therefore, P was computed for nine common articles or cases, four reviewed at the begining of the study and the 30th article reviewed by each reviewer which was subsequently duplicated and reviewed by the other four reviewers. This was expected to result in a relatively conservative estimate because reliability usually increases as reviewers become more familiar with the instrument and the material being reviewed (Yin & Heald, 1975). For the first four cases, P ranged between 88.7% and 93.5% per case; for the second group of five articles, P ranged between 91.5% and 96.3% The overall level of agreement for the nine articles for which P was computed was 93.2%.

This study was primarily designed to classify and describe research about college students. Therefore, not all the articles in which college students were used as subjects or data sources were eligible

for inclusion. The reviewers were instructed to omit articles which may have used college students as subjects but which did not, in the introduction, statement of the problem, theoretical framework, or discussion sections, emphasize how the study would add to understanding about college students. For example, an article about information processing using college students as subjects would only be included if the article indicated how the findings could be used to better understand college student behavior, not information processing behavior. This resulted in some difficult inclusion-exclusion decisions for the reviewers. The principle followed was to err in the direction of inclusion. The reviewers also had the option to indicate as part of the case ID if they were uncertain whether the article met the criteria for inclusion so that such articles could be excluded if desired from subsequent analyses.

Data Analysis

Descriptive statistics were used to develop a profile of the type of article published, substantive topics, and methods by year of publication for each periodical. Chi square analyses were used to determine changes ocurred between 1969 and 1983 in certain article characteristics (e.g., the type of article, substantive topics, and methods appearing in various journals). Responses about which the reviewers were uncertain were purposefully omitted when the data were analyzed; therefore ns vary depending on the variable.

Results

A total of 1189 articles were reviewed, about 26.6% of the 4467 articles that appeared in the 11 journals every other calendar year

1969-1983 inclusive. While the number of papers published in these journals has remained relatively stable since about 1973 (the first year of RHE), the number of articles devoted to college students that appeared during this period decreased from 175 in 1973 to 119 in 1981 (Table 1). Much of the decrease can be attributed to fewer articles about college students published in JCSP, JEP, JHE and JCP. The number of female contributors increased while the number of male contributors decreased between 1969 and 1983.

JCSP contained the largest share of articles about college students (30.8%) followed by JCP (10.5%), P&G (9.8%), NAWDAC (9.6%), NASPA (8.7%), RHE (8.1%), JEP (8.0%), JHE (6.5%), AERJ (3.8%), SocEd (3.5%), and RevHE (.8%) (Table 1). This rank order changed when the proportion of articles each journal devoted to college student research was considered: JCSP (60.9%), NAWDAC (44.0%), NASPA (41.2%), RHE (38.2%), SocE (24.3%), JHE (22.2%), JCP (20.5%), RevHE (19.2%), AERJ (16.8%), and P&G (13.2%).

Insert Table 1 about here

Sixty-three percent of the articles using students as subjects were conducted at PhD granting institutions. The next largest group of subjects came from multiple institutional sites (14.6%). SocE and AERJ were more likely to publish articles with national samples (16.7% and 11.4% respectively). Samples drawn from multiple institutions were used most frequently in papers appearing in RHE (28.1%), SocE (19%), and AERJ (13.3%) ($\chi^2 = 318.74$, df=30, $p < .01$).

Only about five percent of the articles were based on students

from primarily baccalaureate granting or community colleges. Almost four-fifths (78.5%) of the studies were conducted at state supported institutions, 12% at private colleges or universities with the remainder drawing samples from both types of schools.

Combined gender samples dominated (81.9%); about 10% of the articles focused on women only and 7% on men. Female-only samples articles were more likely to be used in articles published in NAWDAC, JCSP, and JCP (χ^2 =405.22, df=40, $p < .01$). Male focused articles appeared more frequently in SocE (14.3%) and JCP (13.6%) during the earlier years included in this study. In fact, the number of male focused articles decreased between 1969 and 1983 while the converse was true for women. Only 73 articles (8%) used minority students exclusively when selecting the sample or compared minority students with white students.

Of the 792 articles that were based on data gathered from respondents, only 31 studies were published based on 25 or fewer respondents, and 64.6% used samples ranging from 26 to 500. Certain journals exhibited a preference for studies using large samples (500 or more respondents): AERJ, (42.2%), SocE (40.5%), RHE (37.5%), JEP (25.3%), JCSP (20.5%) (χ^2 =463.54, df=80). Ninety six percent of the sample ratings were reported by reviewers to be in the high confidence range.

Pencil and paper instrumentation dominated as almost 60% of the articles used locally developed (27.9%), standardized (24.8%) or both (6.1%) types of instruments. Standardized instruments were more popular in the earlier years of the period studied. For example, in 1969 and 1971, 65.8% of the instruments used were standardized. In 1981 and 1983, however, only 50.7% of the instruments used appeared to be standardized. Observation was rarely used as a data collection technique

(1.6% of the articles). Interviews also were not used often (6.7%) and, like standardized instruments, were somewhat more popular in the earlier years. JCP and JEP published a disproportionate share of articles in which experimental conditions were established. Twenty eight percent of the articles published in 1969 used anecdotal information contrasted with only 16.6%, 10.9% and 13.1% in 1979, 1981 and 1983 respectively. Anecdotal information appeared most often in NASPA (54.4%), NAWDAC (41.2%), and JHE (26%). Literature reviews were most popular as a data collection technique in NASPA (35.9%), P&G (19%), and NAWDAC (15.8%). Ninety six percent of the data collection techniques ratings were reported in the high confidence range.

Close to 60% of the articles used descriptive statistics either exclusively or in concert with other techniques. This proportion remained fairly constant over the 15 year period. Univariate analyses were also fairly common (44.9%). Multivariate techniques were used in about a fifth of the articles (19.2%) and became more popular in the late 1970s and 1980s (x^2 =33.55, df=7, $p < .01$). In 1969, only 10.8% of the articles reviewed used multivariate procedures; by 1983, almost 30% employed some multivariate technique. Relatively infrequent use was made of reliability estimates and data reduction techniques such as factor or cluster analysis (about 6% of the articles used one or the other). Reliability measures were employed more often in the later years (x^2 =23.75, df=7, $p < .01$) and in articles published in AERJ (22.2%), JEP (16.8%), and RHE(14.6%) (x^2 =75.14, df=10, $p < .01$).

As Table 2 indicates, certain journals (AERJ, JCP, JEP, and RHE) exhibited a preference for papers using multivariate procedures. Data reduction methods were most often used in articles appearing in AERJ,

JEP, and RHE.

Insert Table 2 about here

Although the majority of studies employed crossectional designs (74.0%), longitudinal designs were used with greater frequency in later years (x^2 =31.52, df=14, $p < .05$). Many of the studies categorized as longitudinal were field experiments of relatively short duration. Again, reviewers' reported level of confidence in the design ratings was quite high--93.5%.

Reviewers determined that approximately 27.2% of the articles used theory in the conceptualization of the study or in some other way (e.g., interpreting the results). This finding should be interpreted with caution as this item had the lowest reliability estimate (84.4%) when the nine common cases were evaluated.

The single most researched topic between 1969 and 1983 was students' attitudes and expectations including reports of satisfaction with college (Table 3). Other topics receiving considerable attention (100 articles or more in which the substantive topic was primary or secondary) included: achievement, personality characteristics or functioning, campus environments, educational and vocational aspirations, women, and career and vocational development. The miscellaneous "other" category accounted for a substantial number of entries. In the earlier years (1969-1973), the reviewers noted that many of these articles focused on student protest (e.g., characteristics of involved students, institutional policies for dealing with campus sit-ins, etc.). In the later years, athletics and collective bargaining were

popular topics.

Over the 15 year period, some topics received more attention than others. Articles focused on women and older students increased in number while statistically significant decreases were noted for papers addressing aptitude, aspirations, graduate students, and fraternity/sorority members. Although only three percent of the total number of articles published focused on blacks, they were the most often studied minority group with half of all minority group-focused articles.

Insert Table 3 about here

Certain journals published more articles dealing with certain topics. For example, aspirations and interests comprised a disproportionate share of articles in RevHE (30%), SocE (21.4%), and JCP (20.8%) (χ^2 =77.80, df=20, $p > .01$) and achievement in AERJ, JCSP and JEP (χ^2 =105.37, df=20, $p > .01$). In fact, over one quarter and one third of the college student papers published in AERJ and JEP respectively were achievement focused. Articles concerning students' attitudes appeared most often in JCSP (41.8%), SocE (28.5%), RHE (25%), and NAWDAC (15.8%) (χ^2 =139.10, df=20, $p > .01$). Thirty six percent of the 91 articles describing minority students were published in JCSP. JCP published a disproportionate number of papers about students' personality characteristics (48%); both JCSP and JEP devoted 20% of their articles to this topic. Seventy-two percent of the manuscripts describing older students appeared in either NAWDAC or JCSP (χ^2 =78.27, df=20, $p < .01$). About 44% of the 114 articles concerned with women were published in NAWDAC.

JCP, JCSP, and P&G together accounted for about three quarters of

the papers dealing with career and vocational development. JCSP devoted a relatively high proportion of articles to cognitive/intellectual (42%), social-emotional (46%), and moral development (64%) papers.

Evaluation of instruction was a popular topic for JEP contributors as 42% of the articles on this topic were published in this journal; in fact, over 40% of all the college student research published in JEP was related to this topic. Over 44% of the legal issues articles appeared in NASPA and comprised about 27% of all the college student articles in this journal. During the 15 year period, only four articles about academic dishonesty were published (Table 3); three of these in JCSP. Papers concerned with specific out-of-class behavior of students such as drug and alcohol use and sexual activity were most likely to appear in JCSP, NASPA, and NAWDAC.

Almost three quarters of the articles were categorized as either primarily (63.7%) or secondarily (10.8%) "descriptive" in nature. However, the proportion of descriptive articles decreased in the later years (Table 4). Theory development papers were the next most common (10.8% primary, 13.4% secondary). Relatively few concept integration (6.6%) and policy formulation (6.4%) papers were published; an annual average of six papers primarily devoted to concept integration and about three primarily devoted to policy issues. Decision-oriented papers were most likely to appear between 1975 through 1979; two thirds of those were published during this five year period.

Articles with characteristics of theory development were most likely to appear in AERJ (57.8%), SocE (61.9%), and RHE (50%) ($\chi^2 = 261.60$, df=20, $p < .01$). Policy oriented papers were concentrated

in JHE (13%), NASPA (12.6%), and NAWDAC (10.5%) (x^2 =41.57, df=20, p < .01). Decision-oriented research appeared most frequently in RHE (27%) and JCP (23.2%) (x^2 =66.59, df=20, p < .01). Developmental papers were more likely to be found in NASPA (34.9%) and P&G (35.3%) (x^2 =137.08, df=20, p < .01).

Insert Table 4 about here

Reviewers' expressed confidence in their ratings of the types of articles was not as high as the estimated confidence levels for the other categories; nevertheless, 86.9% of the ratings were in the high and 12.5% in the moderate confidence level range (Table 4).

Discussion

The results of this study suggest that the college student research published in these 11 referreed periodicals has become more methodologically sophisticated between 1969 and 1983. The use of anecdotal information seems to have decreased considerably, particularly in certain journals which in 1969 relied quite heavily on this type of material. Although less sophisticated types of analyses (descriptive) have remained popular and are often necessary for certain purposes (e.g., to profile respondent pools), these techniques were typically accompanied by univariate and, in the later years covered by this study, multivariate or some other relatively sophisticated analytic techniques. The increased use of multivariate techniques is probably not unique to college student research but has also occured in other substantive areas in which social scientists conduct research.

College student researchers' preference for pencil and paper instrumentation remains firm; however, the use of standardized instruments declined significantly in the past 15 years. In fact, the increased use of reliability estimates was probably a function of an increase in the use of locally developed instrumentation which requires evidence of rigorous psychometric properties to convince editorial reviewers that the data are valid and reliable. Nevertheless, the frequency with which reliability measures are used is much less than the number of locally developed data collection tools.

The reasons for a shift in preference from standardized to locally developed pencil and paper tools is not clear. It is possible that the topics of interest to researchers in the 1970s and 1980s such as evaluation of instruction and attrition are not readily amenable to the use of nationally standardized tools. Also, the emergence of additional theory bases require the construction of new instruments and more sophisticated data analysis techniques. These new instruments give the college student researcher the best of two worlds. The instrumentation can be designed specifically to meet the needs of campus administrators (who, because of reduced federal support for such research, find an increased interest in obtaining campus specific information that might be helpful in designing intervention strategies for reducing attrition are probably funding a greater proportion of college student research). Also, pschometrically sound instrumentation which meets the researcher's specific purposes and can be easily revised without copyright problems.

Unlike the 1960s, relatively few single sex samples were used in the 1970s and 1980s. Sample sizes have increased slightly and preference has been shown by some journals (RHE, AERJ, SocE) for multiple

institutional samples or national data bases. Single institution and most multiple site studies employed samples selected from state supported PhD granting institutions. Only a handful of articles used students from co[illegible]ty college or baccalaureate granting institutions. Also, relatively few articles appeared during this 15 year period which focused on ethnic minorities such as Asian Americans, American Indians, and Spanish surnamed students. It is possible that such articles are more likely to appear in specialty journals (e.g., Bilingual Educator). Nevertheless, the college experience of minority students has been effectively ignored in these high circulation periodicals.

The relative popularity of certain topics is not surprising given the issues with which the academy has had to deal during the 1970s and early 1980s. Issues which can represent a threat to institutional vitality and even survival such as faculty development and retention, probably have influenced the inquiries of some researchers. Authors also may have selected topics in which they feel editors have an interest.

It is surprising that some topics have not been addressed during this time, at least not in these journals. For example, relatively few decision-oriented papers devoted to the utility of special tutorial programs for educationally disadvantaged students have appeared. Despite the fact that members of national fraternity and sorority members comprise at least 10-15% of the undergraduate population, only 10 articles were published on this topic in these journals during the entire 15 year period. Equally surprising was the paucity of research on academic dishonesty and commuter students, particularly those at two year colleges.

Some of these topics are clearly more difficult to research. Commuter students are more difficult to contact and those more likely to be in contact with them either do not have the interest in or the pressure to gather the kind of data necessary to be published in these journals. Illuminating the phenomenon of plagerism demands that the student admit the deed, an unlikely act.

The results tend to confirm impressionistic characterizations of the various journals. For example, articles appearing in "research oriented" journals such as AERJ and SocE are characterized by relatively large subject pools often from a national data base and sophisticated methodological and analytical procedures. "Practitioner oriented" journals such as NASPA, NAWDAC, and JHE are more likely to publish papers less methodologically sophisticated for three reasons: (a) their readers prefer narrative, not statistics, (b) relatively few methodologically sophisticated papers are submitted to these periodicals, and (c) editorial policies have been developed to ensure that published papers emphasize narrative over complicated methodology. Even though some methodologically complex studies are submitted to practitioner-oriented journals, editorial policy requires that before the paper will be published, much of the methodology must be edited out or statistics carried in a footnote. This probably serves to discourage some researchers from submitting certain kinds of material to some journals. It also placates association officers responsible for describing the benefits of journal subscriptions to prospective association members.

The topics common to various journals seemed to be generally consistent with the characteristics of the professionals who hold membership in the associations which sponsor the periodicals. The

American College Personnel Association sponsors JCSP and purports to champion the cause of human development in the academy. The majority of articles on this topic published between 1969 and 1983 appeared in this journal as have papers that describe various subgroups of students (e.g., minority, older, commuter students) often ignored or overlooked by contributors to many other journals. During this period, JEP and AERJ published papers addressing a rather limited range of topics (i.e., achievement and evaluation of instruction). However, these topics are at the core of the respective sponsoring association's activities. We are what we say we are. One way to reinforce professional identity is to disseminate scholarship which reinforces the association's cause. These 11 journals exist for different reasons and clans of readers. The results of this study suggest their purposes are fairly distinct at least on the substantive topic level.

Given that about 160 papers about college students were published in each of the last 15 years, it is curious that only a half dozen or so primarily concept integration manuscripts appeared each year. Perhaps four percent of the papers published over a 15 year period is an adequate amount of synthesis. Concept integration is not an easily acquired skill; it requires insight and a familiarity with the literature most young scholars do not possess and skills most graduate programs do not address in coursework, assistantships, or dissertation work. Of course, it is possible that the characteristics of concept integrations are difficult to accurately identify; indeed, reviewers' level of confidence in their ratings was lowest when categorizing the type of article. It is also possible that the typology itself is not sophisticated enough to embrace the various manuscript styles that ha

characteristics of concept integrations.

This report is a general summary of the preliminary findings from this study. Additional post-hoc analyses will be conducted to respond to more specific questions about the college student literature. For example, it might be interesting to compare the substantive topics and types of papers preferred by male and female authors and whether changes in editors resulted in changes in the types of papers that are subsequently published.

Speculations

As more sophisticated methodologies and analytic tools have been developed, more articles devoted to model testing or theory development have appeared aand the number of primarily descriptive articles has decreased. It is not clear from these data whether the number of theory development articles has increased because more theories from which to choose are available, or because researchers are more competent in the use of the more sophisticated techniques required to develop and test theory. As with most shifts in practice, this emphasis on theory is probably a function of these and other social phenomena not completely understood.

It is not known if the decrease in decision-oriented publications is a function of editorial policy, changes in the preferences of manuscript reviewers or whether fewer such articles are being submitted for review. The fact that relatively few of these papers have appeared in the last three years compared with the period between 1975 and 1979 is inconsistent with the "accountability" and "evidence of quality" slogans often expressed by external stakeholders and institutional decision-makers.

Assuming that the reviewers' inclusion decisions were consistent over the course of the study, the decrease in the number of articles devoted to college students published in these 11 journals during this 15 year period is curious. One hypothesis is that higher education researchers have turned their attention to institutional strategy issues such as relationships with external constituencies and legislators, alumni relations, and institutional planning activities. Without additional information, it is unclear whether this numerical decline is due in part to the emergence of specialty (e.g., Association of College and University Housing Officers Journal) or regional publications (e.g., College Student Affairs Journal, a publication of the Southern College Personnel Association) which publish articles about college students.

The success of publishing companies focused on the higher education market probably has made it more lucrative for some scholars to prepare book length manuscripts. Certainly the integrity of some topics such as Bowen's (1979) Investment in Learning and projects such as Astin's (1977) Four Critical Years and Chickering's (1975) Commuters Vs. Residents is best preserved in a medium which allows more comprehensive treatment of the subject. Marketed to appeal to student affairs practitioners, the New Directions for Student Services series has contained several volumes on non-traditional students. These other publication outlets have probably siphoned off some papers which 15 years ago may have been prepared for one or more of the journals reviewed in this study. Whether the quality of the work disseminated by commercial publishers is the same as the material which must pass the scrutiny of journal reviewers cannot be determined from the results

of this study.

While society has become more complex and multiple perspectives and interpretations of reality are becoming increasingly accepted (Schwartz & Ogilvy, 1979), it is somewhat disappointing that relatively few articles appeared between 1969 and 1983 in which interview and observational data were used. Descriptions of the college student experience captured ethnographically can be as "valid" and as interesting as data gathered by psychometrically verified pencil and paper instruments. Such projects are often more labor ("researcher") intensive and require more innovative use of electronic data processing equipment. They also are counter to the trend toward larger, multisite samples which surfaced in the 1970s. However, the results of this study suggest that while much is known about college students, most of this information has been collected and interpreted in the "analytical scientist" paradigm (Mitroff & Kilmann, 1978). Heeding Silverman's (1982) suggestion, perhaps our understanding of college students could become richer and better balanced if more use were made of different inquiry perspectives such as those of the conceptual humanist and the particular humanist.

Conclusion

While more methodologically sophisticated (e.g., increased use of multivariate techniques), the orientation to college student research has remained essentially the same between 1969 and 1983. The majority of studies employ pencil and paper instruments administered to relatively large combined gender samples.

While it is safe to conclude that a good deal is known about college students in the United States, most of what is known is based

on students attending public, doctoral-granting institutions. Indeed, precious little is known about students at two year, predominately commuter campuses, the sector in which growth in enrollment is increasing at the fastest rate. Not many articles have been published about students at primarily baccalaureate granting colleges.

The college student population continues to become more heterogeneous both in terms of demographics and aspirations (Keller, 1983). Much of the research carried out using residential students may not apply to minority, older, parttime and commuter students. In many respects, the need to learn more about college students has never been greater.

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TABLE 1

Number of Articles about College Students Appearing in Selected Journals Between 1969-1983

Journal	1969 Total #	1969 College Student	1971 Total #	1971 College Student	1973 Total #	1973 College Student	1975 Total #	1975 College Student	1977 Total #	1977 College Student	1979 Total #	1979 College Student	1981 Total #	1981 College Student	1983 Total #	1983 College Student	1969-1983 Total	1969-1983 Total College Student	Proportion of College Student Articles
AEPJ	36	4	40	3	18	5	27	7	33	8	33	6	34	5	46	7	267	45	16.8%
JCSP	62	41	74	54	83	65	78	40	77	51	79	46	76	33	72	36	601	366	60.9%
JCP	87	22	98	15	97	23	93	20	62	12	56	12	64	10	53	11	610	125	20.5%
JEP	83	10	80	8	106	14	128	20	99	13	93	13	96	9	83	8	768	95	12.4%
JHE	50	12	41	9	51	11	40	11	46	11	55	10	34	7	29	6	346	77	22.2%
NASPA	37	12	44	24	44	13	37	7	41	10	26	15	28	10	30	12	250	103	41.2%
NAWDAC	40	30	34	15	37	12	28	7	35	14	30	11	26	10	29	15	259	114	44.0%
P & G	101	23	90	12	91	11	87	11	108	16	128	18	132	12	143	13	880	116	13.2%
RHE	a		a		31	17	35	16	49	25	50	18	43	14	53	6	261	96	36.2%
RevHE	a		a		a		a		a		16	1	11	1	25	4	52	10	19.2%
SocE	22	4	18	9	23	4	26	5	21	5	17	5	28	6	18	4	173	42	24.3%
Totals	518	158	519	149	581	175	579	144	571	165	583	157	572	119	581	122	4467	1189	26.6%

Note: a = Journal was not published during these years.

TABLE 2

Frequency of Use of Data Analysis Techniques Used in College Student Research by Selected Journals

Journal	Descriptive	Univariate	Multivariate	Reliability	Data Reduction		Design	Reviewers' Confidence Level	
AERJ	40.0%	17.8%	62.2%	22.2%	33.8%	26.7%	28.9%	High Mod	97.0% 3.0%
JCSP	71.0%	60.1%	19.5%	3.6%	4.1%	56.3%	18.6%	High Mod	91.4% 8.6%
JCP	88.8%	82.4%	29.6%	8.8%	4.8%	72.0%	18.4%	High Mod	83.1% 16.9%
JEP	78.9%	83.2%	33.7%	16.8%	16.8%	73.7%	20.0%	High Mod	80.1% 18.9%
JHE	39.0%	26.0%	13.0%	-	2.6%	32.5%	9.1%	High Mod	75.9% 24.2%
NASPA	28.2%	12.6%	-	2.9%	-	26.2%	2.9%	High Mod	96.9% 3.1%
NAWDAC	44.7%	18.6%	.9%	-	.9%	38.6%	7.9%	High Mod	98.1% 1.9%
P & G	33.6%	9.5%	.9%	1.7%	-	28.4%	6.0%	High Mod	93.7% 6.3%
RHE	70.8%	52.1%	39.6%	14.6%	18.9%	15.6%	31.3%	High Mod	93.3% 6.7%
RevHe	30.0%	20.0%	20.0%	10.0%	10.0%	20.0%	30.0%	High Mod	100.0% -
SocE	61.9%	16.7%	19.0%	9.5%	9.5%	21.4%	42.9%	High Mod	100.0% -
Aggregate %	59.7	44.9	19.1	6.1	6.5	47.9	16.8	High Mod	91.1 8.9

TABLE 3

A Comparison of Substantive Topics Related to College Students Appearing in Selected Periodicals Between 1969-1983

Substantive Topic	1969 P	1969 S	1971 P	1971 S	1973 P	1973 S	1975 P	1975 S	1977 P	1977 S	1979 P	1979 S	1981 P	1981 S	1983 P	1983 S	Totals P	Totals S	x^{2a}
Behavior																			
Achievement	15	10	16	16	12	13	15	13	15	4	16	4	8	5	10	4	107	69	22.30
Admission	2	2	6	1	12	3	5	0	2	0	3	1	1	1	3	0	34		23.17
Drugs/Alcohol	2	1	1	0	7	1	6	0	–	–	4	0	2	0	5	1	27	3	18.13
Attrition	5	2	8	6	7	2	2	2	5	1	4	4	10	1	9	0	50	18	24.41*
Cheating	–	–	1	0	0	1	–	–	1	0	–	–	1	0	–	–	3	1	11.20
Sex	0	2	3	1	2	2	2	1	2	1	2	1	1	0	3	4	15	12	12.81
Activities	11	5	10	6	10	4	4	2	3	2	7	4	4	2	3	2	52	27	14.90
Characteristics																			
Aptitude	3	4	7	4	3	12	3	3	0	3	0	2	1	3	2	0	19	31	32.59**
Aspirations	20	13	8	3	13	7	10	6	4	6	9	3	15	4	12	3	91	45	32.11**
Attitudes/Expect.	25	6	29	10	34	11	21	8	28	16	19	9	23	3	31	3	210	66	21.36
Commuters	0	1	2	0	1	0	–	–	3	1	1	4	1	0	0	2	8	8	21.12
Ed. Disadvantaged	1	1	4	2	3	1	2	1	0	2	2	0	–	–	2	1	14	8	11.10
Foreign	1	0	3	0	3	1	–	–	3	0	2	1	–	–	2	0	14	2	10.89
Fraternity	1	0	4	0	4	0	–	–	–	–	1	0	–	–	–	–	10	0	15.28
Graduate	5	5	1	2	5	0	2	0	3	1	3	0	0	1	4	0	23	9	24.58*
Handicapped	–	–	–	–	1	0	–	–	2	0	3	0	3	0	1	1	10	1	19.18
Health/Suicide	2	0	1	0	5	2	2	0	2	0	1	1	3	0	2	3	18	6	19.17
Married	2	0	1	1	1	0	3	0	1	1	2	2	2	0	–	–	12	4	18.82
Minority	14	1	8	0	19	1	10	2	11	2	2	1	10	0	8	2	82	9	18.62
Older	2	0	3	0	3	0	3	0	6	0	9	4	3	3	12	2	41	9	42.65**
Personality	21	7	28	6	25	9	14	9	17	7	11	11	9	2	17	5	142	56	20.50
SES	1	1	5	1	2	7	2	3	2	0	1	1	1	2	1	1	15	16	20.82
Transfer	1	0	3	1	5	0	1	1	0	1	1	0	2	0	1	1	14	4	12.87
Veterans	–	–	–	–	1	0	2	0	2	0	–	–	–	–	–	–	5	0	8.75
Women	11	2	7	4	9	3	11	3	11	4	15	1	8	0	21	4	93	21	26.66*
Development																			
Career/Voc	11	11	7	1	5	2	5	1	12	4	9	8	14	2	8	7	71	36	35.75**
Cognitive	3	6	1	3	2	4	0	2	6	1	1	4	3	0	8	6	24	26	33.14**
Moral/ethical	2	3	1	1	3	1	–	–	1	2	0	1	3	2	0	5	10	15	21.70
Social/emotional	3	4	4	4	10	9	5	3	6	3	1	4	9	3	8	13	46	43	38.71**
Academic																			
Study skills	3	0	4	1	1	4	6	1	4	5	2	2	3	1	5	2	28	16	15.20
Eval of instruc	4	1	5	0	9	3	16	1	15	0	18	5	8	0	5	1	80	11	35.84**
Miscellaneous																			
Finances	–	–	–	–	4	1	2	0	6	1	2	0	1	0	1	0	16	2	17.44
Learning styles	3	3	2	0	9	1	4	4	6	4	7	2	1	0	2	1	34	15	18.59
Campus environments	20	6	20	2	16	10	15	3	14	10	11	6	5	8	2	2	103	47	30.43**
Legal issues	3	8	17	1	4	1	2	1	7	1	7	0	3	0	7	1	50	13	54.44**
"other"	37	17	40	9	40	13	27	13	19	13	41	29	18	11	14	6	236	111	51.45**
Confidence Level (%)																			
High	81.4		86.1		92.3		83.1		77.4		78.5		90.4		94.5		85.0		
Moderate	17.9		13.1		7.6		16.2		21.3		20.8		9.6		5.5		14.5		
Low	.7		.8		–		.7		1.3		.7		–		–		.5		

Note: [a]df = 14
*p <.05
**p <.01

TABLE 4

Number of Various Types of College Student Research Articles and Reviewers' Level of Confidence in Ratings by Year

Type of Article		1969	1971	1973	1975	1977	1979	1981	1983	Total	x^2 (df=14)
Descriptive	Primary	114	97	112	92	103	85	81	73	757	38.95**
	Secondary	10	24	29	15	17	13	5	16	129	
[illegible]	Primary	10	15	24	17	17	14	16	16	129	19.76
	Secondary	20	16	19	25	22	15	17	25	159	
Conceptual Integration	Primary	4	6	6	6	6	8	6	8	50	17.48
	Secondary	7	2	0	1	3	5	5	5	28	
Policy	Primary	4	8	4	1	5	2	1	3	28	15.32
	Secondary	8	8	9	5	5	3	3	6	47	
Decision Oriented	Primary	5	6	4	14	13	24	2	3	71	74.90**
	Secondary	5	7	9	13	14	22	5	2	77	
Developmental	Primary	12	12	18	14	16	11	11	12	106	17.61
	Secondary	5	5	10	11	7	13	9	15	75	
Confidence Level (%)	High	89.7	91.8	98.7	87.0	81.3	73.4	88.5	84.0	86.9	
	Moderate	9.7	8.2	1.3	12.9	16.0	26.6	11.5	16.0	12.5	
	Low	.7	-	-	-	2.7	-	-	-	.6	

**p < .01