

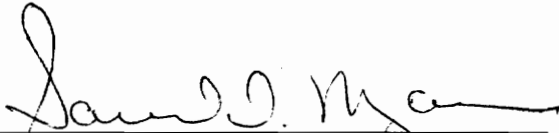
COMMUNITY COLLEGE/HIGHER EDUCATION DOCTORATES IN THE  
TWO-YEAR COLLEGE ADMINISTRATIVE LABOR MARKET:  
A NATIONAL STUDY WITH REGIONAL ANALYSIS

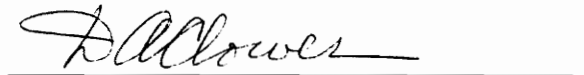
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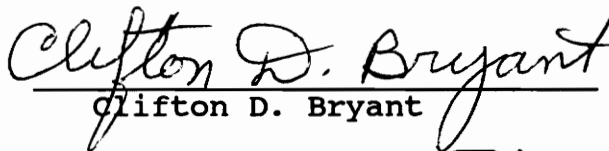
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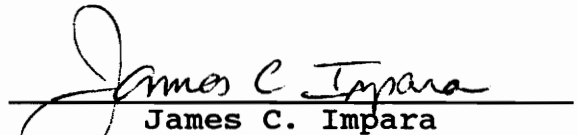
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in partial fulfillment of the requirements for the degree of  
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in  
Community College Education

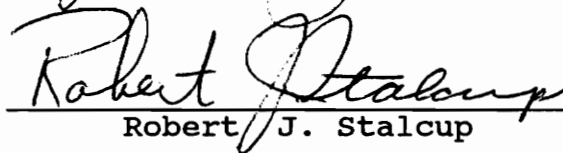
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**COMMUNITY COLLEGE/HIGHER EDUCATION DOCTORATES IN THE  
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by

Karen A. Noel

Committee Co-Chairmen: Samuel D. Morgan and Darrel A. Clowes  
Community College Education

(ABSTRACT)

Community college and higher education doctoral programs which prepare individuals for the two-year college administrative labor market were analyzed for regional orientation by studying the career experience of administrators, with earned doctorates in community college/higher education, who were employed in 1990 by two-year colleges in the United States. Employment location relative to location of the doctoral-granting institution was considered at three points in time: three months prior to beginning doctoral study, three months after completing doctoral study, and the current (1990) employment.

Contingency tables show strong regional orientation based on four US regions (North, South, Midwest, and West). The in-region association exists independently of in-state associations and may be found for two-year college administrators with both recent (five or less years since earning the doctorate) and for long-standing (fifteen or more years since earning the doctorate) doctoral degrees in community college or higher education.

Analysis of individual institutions, however, shows variation in the extent of state, regional, and national orientation. Maps for the top ten doctoral-granting institutions (determined by total cumulative production of community college/higher education doctorates in the two-year college administrative labor market as of 1990) are presented for each of the three points in time. The range of in-state employment among these ten institutions is approximately 15% to 92% at pre-doctoral, post-doctoral, and current (1990) employment locations. The range of in-region employment is narrower (approximately 48% to 100%). In addition, all states in which the individual held a post-doctoral administrative position of at least six months duration were cumulated and mapped by doctoral-granting institution. Two of these top ten institutions, Nova University and the University of Texas at Austin, show the pre- and post-doctoral locations of their community college/higher education doctorates dispersed in the largest number of states; while North Carolina State University, UCLA and University of Southern California have the fewest states reported.



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## Chapter 1

### INTRODUCTION

#### Background

Senior level two-year college administrators tend to stay in the same state or region when changing jobs from one two-year college to another. Most such moves are within the same state, and most out-of-state moves are within the same region (Clark, 1988/89). Evidence of this tendency in the two-year college administrative labor market has developed through a series of related research efforts (Clark, 1988/89; Moore & Twombly, 1985; Moore, Twombly, & Martorana, 1985; Smolansky, 1984/85; Twombly, 1985/86; Twombly, 1986). An internal labor market for senior level community college administrators has been identified and investigated by Clark (1988/89), Moore, Twombly, and Martorana (1985), and Twombly (1985/86). The segmenting structure of this market is found in employment location, and apparently does not involve strong influence by other commonly cited factors of institutional type such as size, resource level, and mission (Clark, 1988/89).

Doctoral-level education in the field of higher education has been found to be used for career enhancement rather than career entry (Twombly, 1985; Crosson & Nelson, 1986). Higher education doctoral students commonly have

previous higher education work experience and enter the doctoral program to improve their qualifications for advancement. In contrast, graduate programs in other fields tend to be used prior to first entrance into the workplace for their occupations (Crosson & Nelson, 1986).

Dressel and Mayhew (1974) described existing higher education doctoral programs through a three-part typology. (See Chapter 2 for additional discussion of this typology.) Type one is commonly referred to as having a national perspective, type two as having a local or regional perspective, and type three as being a small program that provides limited courses on higher education or college teaching for students preparing to be junior college teachers or for doctoral students in non-education majors. Implications suggested by Dressel and Mayhew are: (a) that the top level of higher education professionals are educated in type one programs and (b) that two-year college personnel are educated principally in type two programs, that is, ones which focus on the local or regional area. A study of higher education doctoral programs by Crosson and Nelson (1986) based on descriptions from program directors failed to distinguish the Dressel and Mayhew types. Yet Crosson and Nelson, suggesting other research approaches, still felt the typology had validity.

This study further investigates doctoral education in the two-year college administrative labor market, specifically by identifying and analyzing the employment locations of current (1990) two-year college administrators with community college/higher education doctorates in relation to the location of their doctoral-granting institutions. The regional perspective of formal, doctoral-level education in the two-year college administrative labor market (and its closely allied administrative careers) is investigated based on concepts from labor economics and sociology.

#### Problem Statement

The Commission on the Future of Community Colleges (1988), in Building Communities: A Vision for a New Century, explicitly states the critical importance of quality and availability in university programs designed to develop community college leaders for the coming century. Renewed interest exists among universities in supporting community college leadership programs, a trend supported by the Commission (Commission . . . , 1988).

Understanding of the role of higher education doctoral programs in the community college administrative labor market has been growing, but questions still remain about the relation of these programs to the labor market. Are



community college administrators receiving their doctoral education within region as suggested by Dressel and Mayhew (1974)? In a time of fiscal constraints, are higher education doctoral programs for community college administrators best justified on a state, regional, or national basis? Over what areas are recruiting resources best utilized? In a time of expressed need for replacement of returning two-year college administrators and for developing the next century's community college leadership, what are the patterns of influence for higher education doctoral programs in the two-year college administrative labor market? And how can we best advise newer two-year college administrators who want to enhance their administrative careers through doctoral programs in higher education?

Specifically, the problem is to analyze the employment location of community college/higher education doctoral recipients in the two-year college administrative labor market as related to the location of the doctoral-granting institution. This relationship is suggested by two theoretical approaches in the literature: (a) internal labor market boundaries and (b) a typology of higher education doctoral programs.

This study follows a series of research efforts which identified a segmented labor market structured, at least at senior levels, by state and regional location. Locale is also a feature of the typology of higher education doctoral programs proposed by Dressel and Mayhew (1974).

### Research Questions

The present study addresses these research questions:

1. Based upon the career experience of today's two-year college administrators who hold an earned doctorate in community college or higher education, does the Dressel and Mayhew (1974) typology of higher education doctoral programs portray the local and regional orientation of higher education doctoral programs preparing two-year college administrators?

2. What is the relationship between the location of the doctoral degree-granting institution and location of each of the following: last pre-doctoral employer, first post-doctoral employer, and current employer, for two-year college administrators with earned doctorates in community college or higher education in 1990?

### Delimitations

Consideration of the labor market for two-year college administrators is based on intensive study of four regions

(North, South, Midwest and West) which encompass the entire United States. The regional division of the United States is based on the U.S. Census Bureau standard definition (cited in Clark, 1988/89). Table 1.1 lists and Figure 1.1 illustrates the states included in each of the four regions defined for use in this study. Puerto Rico was included in the South and American Samoa in the West.

### Limitations

Only individuals reported to the HEP 90 Higher Education Directory (1990) as current administrators and designated "Dr." by their employing two-year colleges are included in the study. See the discussion in Chapter 3, Research Methods.

Variations exist in the number and level of administrative positions reported per institution. Possible entries were 83 different manpower positions according to the Jones and Drews (1977) position classification system. Positions included are presidents, assistants to the president, vice presidents, chief and associate academic officers, chief and associate business officers, chief student life officers, chief of administration, directors of branch campuses, registrars, directors of admissions, head librarians, directors of educational media, directors of institutional research, directors of computing and

Table 1.1

Regions Defined by the Standard U.S. Census Bureau  
Definition and used by Blau (1973), Clark (1988/89), and  
Smolansky (1985)

---

North	South	Midwest	West
Maine	Maryland	Illinois	Alaska
New Hampshire	Delaware	Indiana	Arizona
Vermont	West Virginia	Iowa	California
Connecticut	Virginia	Kansas	Colorado
Massachusetts	Kentucky	Michigan	Hawaii
Rhode Island	Tennessee	Minnesota	Idaho
New York	North Carolina	Missouri	Montana
Pennsylvania	South Carolina	Nebraska	Nevada
New Jersey	Mississippi	North Dakota	New Mexico
	Alabama	Ohio	Oregon
	Georgia	South Dakota	Utah
	Florida	Wisconsin	Washington
	Arkansas		Wyoming
	Louisiana		
	Oklahoma		
	Texas		
	District of Columbia		

---



Figure 1.1

Map of the United States with Regions Defined by the Standard U.S. Census Bureau Definition

information management, directors of personnel, deans or directors of instructional programs, and a variety of other middle management positions. For a complete list, see the HEP 90 Higher Education Directory.

Field-based or off-campus degree programs were not differentiated in this research from traditional on-campus residency programs. Since field-based or off-campus degree programs may contribute to employment locations outside the region of the doctoral-granting institution, some institutions may show out-of-region employment based on influence of this model rather than as a result of movement to or from a remote location.

#### Definitions

Definitions of key terms are provided as a basis of operation for this research. Uses of terms in this field are evolving. The intention is to identify adequately the concepts involved in the present study, not to suggest or develop standard terminology for future researchers.

Further explanation of these terms and related conceptual issues may be found in the review of literature.

Two-year college administrative labor market - a labor

market that emphasizes the hiring and promoting of those who are already in the two-year college sector (Clark, 1988/89, p. 2).

Labor market segmentation - Disaggregation of the national labor market; the identification of smaller labor markets within a larger labor market (Althauser & Kalleberg, 1981, p. 141).

Labor markets - "arenas (Freedman, 1976) in which one or more of the following are similarly structured: employment, movement between jobs, development and differentiation of job skills, or wages (in their own right or as functions of skills, social status, experience, and other determinants)" (Althauser & Kalleberg, 1981, p. 121); job markets (the areas within which workers can change jobs, as distinguished by Kerr [1950]) (Althauser & Kalleberg, 1981).

Use of the term "higher education" in the literature varies. At times it may be all encompassing while at times it may be used in reference to senior colleges and universities. For the purposes of this research, "higher education" is used in the all-encompassing sense unless otherwise noted. Study in higher education is referred to as "community college/higher education" to emphasize that the category does include programs of study which focus on community colleges.

## Chapter 2

### REVIEW OF LITERATURE

Literature related to the present investigation is organized and discussed in five categories: (a) theoretical approaches, (b) structural perspectives on the community college administrative labor market, (c) doctoral recipients employed in two-year colleges, (d) studies of doctoral recipients in the field of higher education, and (e) studies of doctoral-level degree programs in higher education.

#### Theoretical Approaches

A growing literature on structural perspectives of labor markets and careers has been related to the two-year college marketplace, e.g. Twombly (1986), Twombly (1988), and Clark (1988/89). The quantitative balancing of supply and demand characteristic of studies from the 1960s and early 1970s has shifted to a different type of analysis in the 1980s (Breneman, 1988). A review of studies on academic markets and careers (Youn, 1988) identified five non-exclusive categories of research and showed evidence of a shift toward structural explanations of academic labor markets and careers. Structural perspectives can address in a systematic way the processes, mobility, stratification, and use of human resources in the labor market.



Consequently, this approach appears to serve the current research proposal as a theoretical basis. Youn's five categories of research on academic labor markets and careers are: (a) fixed coefficient model, (b) human capital theory, (c) screening or job competition model (credentialism or queuing theory), (d) institutional ascription model, and (e) structural perspectives.

a. Fixed coefficient model: This model is exemplified by Cartter's research in the 1960s and 1970s (e.g. Cartter, 1974) that analyzed demographic trends in academic employment, especially through use of numerical calculations of total national supply and demand for doctorates. According to Cartter, a relatively fixed percent of the college-age cohort will become doctoral recipients, but the distribution in fields will be in response to market conditions. While the fixed-coefficient model provides a certain numerical insight into the market, it does not adequately explain other factors such as those influencing institutional mobility (Youn, 1988).

b. Human capital theory: Education and training develop individual skills which people bring into the market, thus raising an individual's productivity and earnings. Academic labor market changes are seen in terms of a model that balances wages, enrollments, and doctoral outputs. Wage competition is viewed as the driving force of the labor

market. This is an economic approach used by a number of researchers (e.g. Freeman, 1971) and challenged by others, including sociologists who view wages as constrained by institutions and who see occupations as keys to the labor market. Human capital theory tends to provide insufficient explanation of differences in individual employment outcomes (Youn, 1988).

c. Screening or job competition model (credentialism or queuing theory): Labor markets are characterized by institutional impediments rather than open competition, thus resulting in market imperfections. Impediments may relate to institutional prestige, quality of education, and other social factors. Advocates (e.g. Niland, 1971; Adkins, 1974) consider social factors as determining graduate education enrollments and numbers of graduates. An implication drawn from this theory is that the less-qualified doctorates teach in two-year colleges rather than in the more prestigious senior institutions (Youn, 1988).

d. Institutional ascription model: This view of the academic market includes a relationship between institutional or departmental prestige, initial job location, and scholarly productivity (e.g. Caplow & McGee, 1958). While similar to the screening model in considering institutional factors, institutional ascription studies have been used primarily for explaining careers of the academic

elite and have tended to ignore individuals whose careers are in other sectors of higher education such as those at teaching-oriented institutions (Youn, 1988).

e. Structural perspectives: Beginning in the 1970s, focus among social scientists shifted from study of differences in individuals to study of larger scale institutional and system mechanisms that might influence employee outcomes (e.g. Spilerman, 1977). Analysis that combines labor economics and sociological perspectives has been possible. Basic premises of structure are considered useful in understanding academic careers, academic labor markets, and the relationship of the two (Youn, 1988).

Structural perspectives have been applied to the study of two-year college careers (e.g. Twombly, 1985). Twombly analyzed the structure of specific administrative careers in two-year colleges in three areas: career lines, entry positions, and level and timing of education. Her findings on the structure of careers in terms of education offer an interesting point of departure for the current study. Labor market segmentation and internal labor market theory provide a framework for possible further investigation.

#### Segmented labor markets

Segmented labor market theory began as a contrast between two sectors of the modern economy, primary (e.g.

large corporations and "good" career fields) and secondary (e.g. small businesses and dead-end jobs). As the theory has developed, some authors use labor segmentation to contrast numerous categories of workers within enterprises of both sectors of the economy. Blaug (1985) looks at new thought among educational economists, including labor segmentation theory, and Sherman (1984) considers origins of "contemporary radical economics," including labor market segmentation theory.

Smolansky (1984/85) investigated whether the market for four-year college and university administrators is segmented by institutional types: region, affiliation, size, mission by Carnegie codes, and resource level. All five variables provided significant sources of segmentation. Using a job-transition matrix approach, she compared origin and destination in job changes and found that managers who changed institutions had a strong tendency to make intra-regional moves. Little pattern could be discerned for inter-regional moves. Smolansky has considered applicability of segmentation theory to the occupational labor market for college managers, and discusses methodological issues (Smolansky, 1986).

Carnoy (1977) reviewed the theoretical and empirical literature on segmented labor markets and the implications for educational planning. According to Carnoy, segmented

labor market theory explains the differences in function among a workers' labor market, an owners' labor market, and a managers' labor market as well as explaining fragmentation of the labor market into persisting groups. Options for these groups are restricted by historical, systemic forces. Segments of a labor market may be defined by occupation, industry, race, and sex (Carnoy, 1977).

### Internal labor market theory

Internal labor market theory is based on a specific labor market segment, and is thus related to labor market segmentation theory. The internal labor market has been defined by Doeringer and Piore (1971) as governed by administrative rules. This is in contrast to the external labor market, which is directly controlled by economic variables. The internal and external markets are interconnected with movement at "ports of entry and exit" (i.e. certain job classifications). "The internal labor market as an analytical construct depends on the rigidity of rules which define the boundaries of the internal labor market" (Carnoy, 1977, p. 29).

Twombly (1986) in "Boundaries of an Administrative Labor Market" refers to Althauser and Kalleberg (1981) for her description of internal labor markets as

. . . structures of organizations which organize careers in a particular way in order to provide

leadership capable of fulfilling institutional mission. As structures, internal labor markets have specific characteristics including boundaries, job ladders or career lines, fixed or limited entry positions, and movement in the career line (p. 41).

"Theoretical Approaches to the Study of Career Mobility: Applications to Administrative Career Mobility in Colleges and Universities," a paper presented by Twombly (1986) at the American Educational Research Association annual meeting, focuses on the organizational and structural level of analysis and viewed careers as structures of organizations. Twombly looked at internal labor market theory as a framework for study of administrative careers in higher education. A job ladder or career line, entry ports, and movement up the job ladder or career line were identified as three elements which constitute an internal labor market. Using Penn State's "Today's Academic Leaders" data, career lines for community college presidents, chief academic officers, chief student affairs officers, and chief business officers are examined. While higher education organizations are believed to be special organizational types without clearly defined career lines, the study showed that career lines do develop over time. Further research on higher education career lines to document the steps to senior administration is recommended for the benefit, especially, of women and minorities.

Structural Perspectives on  
the Community College Administrative Labor Market

Identification and analysis of the "surprisingly strong boundary" (Twombly, 1990) provided by geographical region in two-year college career systems have come from a series of related research efforts in the doctoral program and the Center for Higher Education at Pennsylvania State University. Moore, Twombly and Martorana (1985) reported findings from a 1984 national study which described personal and professional characteristics of two-year college administrators at all levels. Included were presidents, campus executives, chief academic officers, and continuing education directors among others. Approximately 45% of the administrators held doctoral degrees. The report draws conclusions about the labor market for two-year college administrators and their career mobility. Study results include these: (a) over 55% of the administrators had been the first person to hold a newly created position; (b) 37% were born in the decade of the 1930s; (c) 47% had earned three degrees; and, (d) over 17% were considering a job change.

In studying the structure of careers of senior level two-year college administrators using an internal labor market approach, Twombly (1986) in "Boundaries of an Administrative Labor Market" found a closed labor market

with mobility of senior level community college administrators (presidents, chief academic officers, and chief student affairs officers) largely within postsecondary institutions and specifically within two-year colleges. In 1987 Twombly reported on a study of career paths of community college presidents that investigated the rate of reaching the first presidency for those who began their careers as faculty and those who began as administrators.

In 1988, reporting on a study of administrative labor markets for senior level administrators in two-year colleges, Twombly tested the existence of occupational internal labor markets characterized by career lines and fixed, low-level entry positions. The author states that "research has indicated that administration does constitute a career" (p. 669) and that "there is no question that there is a labor market(s) within two-year colleges" (p. 685). Twombly also states that the characteristics of the two-year college administrative labor market may suggest a new and different type of labor market in which "administrators, like artists, develop portfolios of experiences or jobs that become more important to attaining top-level posts than the exact ordering of these experiences in an individual's work history" (p. 685).

Also in 1988, Clark identified segmenting structures within the internal labor market for two-year college



administrators. Clark cited accumulating evidence indicative of a developing internal labor market for two-year college administrators as a basis for his research to identify segmenting structures. Geographic location, mission, size, and resource level were factors investigated, but only geographic location was found to contribute significant structure to this internal labor market. Most administrators moving from one two-year college to another moved within the same state. Movements out of state showed a high proportion of moves which merely crossed the state line and the majority moved within the same geographic region.

An earlier investigation of mobility concepts done at the University of Texas at Austin supports region as a market factor. Horton (1988), in a study of two-year college mid-level managers who assumed positions which were nationally advertised in 1986, found that a strong tendency exists to hire administrators locally or regionally. Few positions were filled with individuals who did not have prior connections to the institution or the locale. National announcements and advertisements did not result in a balanced national administrator cohort.

Moore and Twombly (1985) used Penn State's Leaders in Transition data on four-year college administrators to investigate crossover from two-year to four-year colleges.

Only 5.8% of current four-year college administrators had ever held a position in a two-year college. Of those previously employed in a two-year college, 53% were currently employed in a liberal arts college, while less than 10% were employed in a doctoral-level institution. The positions most common for those with histories in two-year colleges were student affairs officer (9%), registrar (7%), dean of continuing education (6%), chief academic officer (5%), and head librarian (5%).

#### Doctoral Recipients Employed in Two-Year Colleges

In addition to the research on community college administrators discussed above, the following studies have provided information on the extent of doctoral education among two-year college administrators. Trumball (1974) investigated the preparation of two-year college presidents and found that more than 60 percent of those responding had doctorates, primarily the Ed.D. The incidence of doctorates was higher for respondents under age 50.

Smith (1979) used results of a national survey of college presidents to assess the extent to which doctoral recipients are employed in teaching and administrative positions at two-year colleges. Less than 10 percent of newly-hired faculty in 1977-78 held the doctorate.

Furthermore, responding presidents were not inclined to hire more doctorates in the future.

Jones (1985) determined the impact of certain variables on leadership styles and effectiveness of community college administrators for his Nova Ed.D. applied research project. Findings from a survey of 150 men and 150 women community college administrators indicated that 69% of the men and 50% of the women held doctorates.

Vaughan (1986) in his study of the community college presidency found that 75 percent of the responding presidents had doctoral degrees. The Ed.D. was held by nearly 44 percent and the Ph.D., in a variety of fields including education, was held by nearly 32 percent. Education was the field of study for 77 percent of the presidents with doctorates (higher education, 46 percent; other areas of education, 30 percent). Presidents who were identified as leaders by their peers were more likely to have an education doctorate than presidents not so identified. The leader presidents had degrees in higher education (63 percent) and other areas of education (32 percent).

Green (1988) found that among two-year college presidents, 71 percent held their highest degree in education and 19 percent held their highest degree in science, social science, or humanities fields. The doctoral

degree earned was the Ph.D. (40 percent) and the Ed.D. (40 percent). Patterns of subject major and degree earned changed with type of employing institution. Baccalaureate colleges, comprehensive colleges and universities, and doctoral-granting institutions had increasing percentages of discipline (rather than education majors and more Ph.D.s than Ed.D.s).

Studies of Doctoral Recipients  
in the Field of Higher Education

Graduates of higher education doctoral degree programs have been investigated by several researchers. Carr (1974) conducted A survey analysis of doctoral graduates in higher education as a specialized field of study. He surveyed graduates from nine leading university programs in higher education, analyzed the educational and employment characteristics of such graduates, and assessed the graduates' perceptions of selected competencies and of their graduate study in subsequent employment. A relationship was found at the .05 level of significance between subfield of doctoral study and the functional area of employment for both the last predoctoral and the first postdoctoral positions.

Compiled by the National Research Council, the Doctorate Records File (DRF) covers the years 1920 to

present and includes a rich profile of survey data from the more recent graduates. Survey response rates in the last few years have exceeded 90 percent. A summary report on the survey results is published annually (e.g. National Research Council, 1984-88).

Tuckman and Belisle (1987) use data from the National Research Council's Survey of Doctorate Recipients (SDR) to look at employment prospects of recent doctoral recipients. The biennial SDR is national in scope, is based on a sample of doctorates in more than 200 science, engineering, and humanities fields, and contains many employment-related variables. Noting that market conditions and trends do change, evidence from their data through 1983 (for 1981 graduates) indicated that new doctorates generally find productive employment.

### Studies of Doctoral-Level

#### Degree Programs in Higher Education

Dressel and Mayhew (1974) examined higher education as a field of study. While higher education courses were offered in the early 1900s and three programs for preparation of college administrators began in the 1920s, most doctoral programs in higher education were found to have begun in the 1960s. Dressel and Mayhew described 67 identified doctoral programs in higher education and

proposed a typology. The typology of higher education doctoral programs has three components: (a) higher education doctoral programs with a national perspective, (b) higher education doctoral programs with a local or regional perspective, and (c) small programs which provide a few courses, such as college teaching, to support other majors.

In describing the first, or national perspective, type of program, Dressel and Mayhew (1974) give UCLA, Stanford, Michigan State, Florida State, and the University of Texas, among others, as examples of this type of program. The authors state that

Consistent with a national perspective, these institutions seek to recruit students from all over the United States and from abroad and similarly seek to place graduates over a widely dispersed geographic region. While younger graduates find early placement in relatively minor positions, the aspirations are to prepare people for upper administrative echelons . . . (p. 33).

The second local or regional type of program in Dressel and Mayhew's typology, is described as "considerably more local in the sort of student it intends to serve" (p. 33) and is specifically characterized as follows: ". . . service to a limited geographical area is the hallmark of this type of program" (p. 34). Southern Illinois University, the University of Washington, Arizona State University, and the University of Pittsburgh were given as examples which fit this program type in 1974, with an appropriate caveat that programs might change over time.

Two published listings (Johnson & Drewry, 1982; Keim, 1983) of top higher education doctoral programs in the U.S. are largely consistent and include the University of Michigan, UCLA, UC Berkeley, Penn State, Stanford, University of Texas, Michigan State, SUNY/Buffalo, Florida State, Columbia/Teachers College, and Indiana University. Johnson and Drewry (1982) identified a total of 70 institutions which offered doctoral programs in higher education in 1978.

Stark, Lowther, and Austin (1985) studied graduate school experiences and subsequent career progress for doctoral graduates in the field of education from a large public research university during the 1960s and 1970s. Demographic information included sex, program of study, year of degree, and age at receipt of degree. Fields of specialization reported were educational administration, adult and continuing education, curriculum and instruction, educational psychology, guidance and counseling, higher education, occupational education, physical education, social foundations, and special education. Career patterns were studied from predoctoral employment through the doctoral program, the first postdoctoral position, and the current position at the time of the survey. A Likert scale was also used to obtain perceptions of the impact of the doctorate on the individual's career development.

Updating the descriptive work of Dressel and Mayhew (1974), Crosson and Nelson (1986) profiled higher education doctoral programs. From 92 programs (actual programs probably numbered between 80 and 90) contacted, 72 programs provided usable responses. These included 42 programs with specialization in community college administration or community colleges and 7 institutions with core courses on community colleges. Few distinctions in formal admissions and degree requirements were found between the Ed.D. and the Ph.D. Possible overproduction of higher education doctorates, the authors note, does not present the same problem in job availability that exists in other doctoral-level graduate programs since students in higher education programs typically are already employed in the field. Using program directors' descriptions of their own higher education programs, Crosson and Nelson found it "impossible" to apply the Dressel and Mayhew (1974) typology of higher education programs. The program directors' descriptions implied more homogeneity than suggested by Dressel and Mayhew, with most respondents saying they recruit locally, regionally, and nationally. Still, Crosson and Nelson suspect that the typology has merit, but that it will require different measures to demonstrate that this is so. Such measures, they feel, may need to consider qualitative



assessment including differences in purpose, clientele and orientation of the curriculum.

Nelson (1987) looked at course requirements of four doctoral-level specializations in higher education administration: academic, administration/management, community colleges, and student personnel. These four specializations are the most common in the field of higher education. Responses to the questionnaire were received from 52 of the 90 program directors listed in the 1984 directory of the Association for the Study of Higher Education.

Barnes et al. (1987) reported a study of community college leadership programs serving California community colleges. Included are assumptions about turnover, demand/need for doctorates among community college faculty and administrators, and the need for specially-designed leadership training programs.

A California State Postsecondary Education Commission Report (1987) addressed issues of supply and demand for the Doctorate in Education in California. The Commission found that, although 14 education doctoral programs offering specialization in higher education existed in the state, additional graduate programs specifically designed to meet leadership development needs of California community college administrators are needed. The Commission, noting that

". . . the doctorate is the accepted credential for leadership positions in higher education," reported that

The most suitable advanced degree programs for [community college] administrators . . . are likely to be those that offer a concentration in higher education, and even more desirable, those designed specifically for community colleges. . . . But unless the degree is to be earned merely as a credential without regard to its professional relevance, there should be more opportunities than presently exist for graduate study tailored to the particular concerns and responsibilities of community college administrators (pp. 29-30).

Formation of a committee to investigate provision of such programs was recommended by the Commission.

Townsend (1989) identified over 120 publications on some aspect of doctoral study in higher education. The 1950s, post World War II years, are seen as the dividing point between emphasis on higher education courses and emergence of higher education programs of study for college and university administrators. Mason and Townsend (1988) identified 88 higher education programs at 87 different institutions operating in the late 1980s.

### Summary

The literature provides support for consideration of and research on two-year college administrators in the tradition of a disaggregate approach to labor market study. Segmentation theory and internal labor market concepts, which have been used in research on the two-year college

administrative labor market, illuminated the structure of the labor market and led to the identification of geographic region as a segmenting or structural factor. Research on structural perspectives also considered aspects of doctoral education, such as timing within one's career, as characteristic of this labor market.

Further, the literature provides a typology of higher education doctoral programs (Dressel & Mayhew, 1974) which uses regional and national perspective as a distinguishing factor. Additional literature sources provide background on doctoral recipients employed in two-year colleges, on doctoral recipients in the field of higher education, and on doctoral-level degree programs in higher education. The present study builds on these previous studies.

## Chapter 3

### RESEARCH METHODS

This study was guided by literature on higher education doctoral programs and by research on the labor market in higher education administration cited in Chapter 2. The research methods employed are discussed in two sections, data collection and data analysis.

#### Data Collection

A customized data-base was obtained from the National Data Service for Higher Education (John Minter Associates) in Boulder, Colorado. The data-base was a specified subset of the 1990 higher education data-base used to publish the annual HEP 90 Higher Education Directory, a standard reference source for directory information on accredited institutions of postsecondary education in the United States and its outlying areas. Information for the directory was obtained by an annual updating survey of all institutions with a response rate of over 99%. The entry revision cutoff date for the 1990 database was September 25, 1989. For research to be conducted in Spring 1990, this provided a reasonably current source of two-year college administrators as reported by their own institutions.

The specified subset was all administrators of two-year colleges with the personal title "Dr." Two-year colleges were identified by the control/program classification code "CC87." The codes in the CC87 field were based on a classification structure in which the first digit indicated public or private control and the following two digits indicated Carnegie Foundation classification for type of institution, i.e. research universities, comprehensive universities and colleges, etc. CC87 coding in the database was last updated in 1987.

The 1990 database contained 15,668 administrator entries for two-year colleges. Of these, 3,758 (24%) were designated as "Dr." An informal preliminary study of 100 known entries for two-year college administrators indicated that 99 were correctly designated for doctoral status by personal title. The one administrator with a doctorate who was designated "Ms." rather than "Dr." had received the doctorate after the cutoff date for the 1990 edition.

Documentation provided with the data stated that personal title information was not available for every administrator entry because some institutions would not furnish this information. Individuals with a doctorate reported by these institutions were not included in this study because of the lack of the personal title "Dr." Of the 15,668 entries for two-year college administrators, 802

lacked personal title designation. A preliminary study of 50 sample listings for which institutions provided no personal title information indicated that researching degree status in college catalog listings would provide little additional information. None of 50 two-year college administrators with undesignated titles in the database had degree information available in the college catalog. As a result, degree status for these individuals was not researched in published college catalogs.

The data-base obtained from the National Data Service for Higher Education provided the cases to be studied, addresses for survey purposes, and several data elements. Additional data was obtained through a mail survey of listed administrators and research of staff listings in published college catalogs. The source of data elements is indicated in Table 3.1.

Some adjustments to the customized data base were necessary to reflect the intended study population. Since board of trustees members have not been considered traditional administrative positions, 2 entries for board chairs were deleted from the study. Another 22 entries were found to be duplicate entries, i.e. the same individual reported by the same institution in more than one position. Such individuals were considered only once and the duplicating entry was deleted from the study. In

Table 3.1

Source of Data Elements

Data Element	Primary Source	Secondary Source
Administrator Name	HEP	
Position Title	HEP	
Institution Name	HEP	
Mailing Address	HEP	
Manpower Code	HEP	
Doctoral Degree	Questionnaire	College catalog
Field of Degree	Questionnaire	College catalog
Degree-granting Institution	Questionnaire	College catalog
Year of Degree	Questionnaire	College catalog
Employment Location (pre-doctoral)	Questionnaire	
Employment Location (post-doctoral)	Questionnaire	
Employment Location (current)	HEP	
Demographic Items	Questionnaire	

determining the entry to be retained, line positions were preferred over staff positions, regular positions were preferred over interim or acting ones, and senior positions were preferred over junior ones. Thus, a person reported as both Dean of Academic Affairs and as Affirmative Action Officer was considered as Dean, and the Affirmative Action Officer entry was deleted. Elimination of these 24 entries (2 board chairs plus 22 duplicates) gave a remaining population of 3,734.

A mail survey of the 3,734 two-year college administrators with the title "Dr." was begun on April 17, 1990. Questionnaire design and survey procedures were based on Dillman's (1978) Total Design Method, with modifications. The cover letter for the initial mailing is shown in Appendix A and the questionnaire is shown in Appendix B. The initial mailing was followed after one week by a postcard follow-up (Appendix C) to all individuals in the initial mailing. A second mailing of the questionnaire was made to non-respondents after 6.5 weeks. The cover letter for this second mailing appears in Appendix D.

Information from respondents and from college catalog research on non-respondents identified additional entries as being inappropriate to the study population. Institutions categorized as two-year colleges in the original database, but which were not two-year colleges at the time of the mail



survey were deleted. These deletions appeared to be the result of changes in institutional mission since the last coding in 1987 and some possible miscodings. A total of 46 administrator entries representing 14 institutions were deleted because the institution was not two-year at the time of the survey. In addition, 39 entries were deleted because the individual did not hold an earned doctorate. This included at least five individuals who held an honorary rather than an earned doctorate, and one individual who had falsified his educational credentials, according to the employing institution.

The final size of the population studied was 3,649 two-year college administrators with earned doctorates. Responses received through October 1, 1990, or 5.5 months after the initial mailing, were included in the analysis. Usable questionnaires received from 3,038 administrators yielded a response rate of 83.3%. Non-respondents include several individuals known to be deceased, one on sabbatical in Asia (whose response was received too late for inclusion), and several administrators no longer associated with the institution due to retirement or to other changes in employment.

Research on the 611 non-respondents (16.7%) in the college catalog of the employing institution provided additional information on 456 administrators (12.5%). Thus,

at least partial data was available for a total of 3,494 (3,038 + 456) administrators, or 95.8% of the population. Catalog research was conducted using the microfiche college catalog collection produced by Career Guidance Foundation. The latest catalog from the 1990-91 (initial mailing) or 1989-90 complete edition was used. Doctoral degree and degree-granting institution were the most frequently listed items added from the college catalogs. A few catalogs included major field of study or year of doctorate. After adding available data from the college catalogs, 155 administrators (4.2%) had no data beyond that from the original HEP database.

Survey and college catalog data were coded numerically and merged with selected data from the National Data Service for Higher Education database. StatPac R Gold - Statistical Analysis Package for the IBM was used on an MS-DOS personal computer for data entry and statistical procedures.

### Data Analysis

The data were analyzed by using contingency tables following the method of Clark (1988/89) and by construction of SASgraph maps for employment location by doctoral-granting institution. Construction of contingency tables has been shown to be a suitable method for analyzing both the pattern and significance of job-change movement of

higher education administrators (Clark, 1988/89). This study extends Clark's (1988/89) method to analysis of the relation between location of doctoral institution and location of employment both before and after the period of doctoral study.

The contingency tables were based on categorical data and subjected to a chi square test of independence. Both movement and direction were analyzed through this procedure. Predoctoral employment location, postdoctoral employment location, and current employment location were cross-tabulated with location of doctoral-granting institutions. For example, when the region of doctoral-granting institutions is compared to the region of first post-doctoral employment, the resulting cross-tabulation shows in which regions and in what numbers current two-year college administrators received their doctoral education and to what regions and in what numbers these doctorates went to postdoctoral employment. Contingency tables show origin, movement, and destination. This basic cross-tabulation procedure produced cells in table form.

The contingency tables address regional relationships for the aggregate of the doctoral-granting institutions. They describe what has occurred overall. To consider possible variations among these institutions, it was necessary to consider employment locations of graduates of

individual doctoral-granting institutions. The ten doctoral-granting institutions with the highest number of community college/higher education doctorates in the 1990 two-year college administrative labor market were considered individually. For each of these ten institutions, the percent of their community college/higher education doctoral recipients employed in-state and in-region were compared. To clarify the relationship patterns (employment locations to the location of the doctoral-granting institution), SASgraph maps were prepared. They portray some of the individual institutional patterns which underlie the aggregate national patterns seen in the contingency tables. The maps are explained more fully in Chapter 4.

It was hypothesized that there is a relationship between location of doctoral-granting institution and both predoctoral employment location and postdoctoral employment locations that (a) follows the pattern of a regionally segmented two-year college administrative labor market (Clark, 1988/89), and (b) follows the Dressel and Mayhew (1974) typology of higher education doctoral programs as it relates to two-year college personnel.

## Chapter 4

### RESULTS

The population surveyed is described in a profile of two-year college administrators with earned doctorates. Similar descriptive information is then presented for those administrators whose doctoral degree was in community college or higher education.

From the responses of the community college/higher education doctorates, the institutions supplying the two-year college administrative labor market are identified and analyzed. Analysis of regional association between doctoral-granting institutions and employment location at several points in time is presented for the four defined U.S. regions. Regional analysis is also presented for length of time since earning the doctorate.

Employment locations for community college/higher education doctorates by individual doctoral-granting institution are analyzed for the 10 institutions with the largest number of community college/higher education doctoral recipients employed as two-year college administrators at the time of the study. Among these 10 institutions, the range of in-state and in-region employment is considered, and individual institutional patterns of pre-doctoral, post-doctoral, and current (1990) employment

locations are presented. Finally, relative production of top two-year college leaders (presidents, executive vice-presidents, and chief academic officers) is presented for the same 10 institutions.

## **Profile of Two-year College Administrators with Earned Doctorates**

### The Doctoral Degree

The earned doctoral degree was reported for 3,491 administrators. Half of the earned doctorates reported were the Ph.D. (1,737 administrators, or 49.8%). The Ed.D. was earned by 1,653 administrators (47.4%). Only 26 D.A. degrees (0.7%) were reported. The remaining 75 administrators (2.1%) held other doctorates such as the J.D. and D.Min.

The major field of doctoral study was reported for 3,043 administrators. Community college or higher education was the field of study for 1,473 administrators (48.4%), while 885 administrators (29.1%) majored in another area of education, e.g. curriculum. In all, 2,358 administrators (77.5%) had doctorates in the field of education. Non-education doctorates were reported by 685 administrators (22.5%).

In 3,042 cases, both doctoral degree and major field of study were known. Table 4.1 shows the major field of study by doctoral degree. As in the Green (1988) findings on two-year college presidents, the two-year college administrators held a preponderance of their highest degrees in the field of education. Disciplines other than education accounted for only 22.5% of all two-year college administrators doctoral field of study.

The doctoral-granting institution was reported for 3,451 administrators. A total of 260 different institutions were reported with the number of graduates per institution ranging from 1 to 189. Of these institutions, 73 (28.1%) were represented by only one doctorate, while 187 (71.9%) were represented by 2 or more doctorates. The eleven institutions with the largest number of graduates serving as two-year college administrators are shown in Table 4.2. One-fourth (868) of the doctoral recipients employed in 1990 as administrators in two-year colleges had graduated from these eleven institutions. This list is generated solely on the basis of total productivity of institutions which awarded doctorates as reported by currently employed two-year college administrators. No reference is made to program quality or other influencing factors such as the number of years a program may have been offering a doctoral program.

Table 4.1

Doctoral Degree and Major Field of Study for Two-year  
College Administrators

Doctoral Degree	Major Field of Study			Totals
	Education		Discipline	
	CC/HE*	Other		
D.A	3 13.0%	0	20 87.0%	23 0.8%
ED.D	885 61.5%	525 36.5%	29 2.0%	1439 47.3%
PH.D	582 38.2%	356 23.3%	587 38.5%	1525 50.1%
OTHER	3 5.5%	3 5.5%	49 89.1%	55 1.8%
Totals	1473 48.4%	884 29.1%	685 22.5%	3042 100%

\* CC/HE is Community College or Higher Education



Table 4.2

Institutions with More than 50 Doctoral Recipients Currently  
Employed as Administrators in Two-year Colleges

Institution	Number	Percent
Nova University	189	5.5
University of Southern California	95	2.8
University of Texas at Austin (plus 12 University of Texas doctorates with no campus)	77	2.2
Michigan State University	75	2.2
University of Florida	75	2.2
Florida State University	71	2.1
North Carolina State University	63	1.8
Ohio State University	58	1.7
University of Michigan	57	1.7
University of Northern Colorado	56	1.6
Virginia Polytechnic Institute and State University	52	1.5
Total	868	25.2

The state where the doctoral-granting institution is located was available for 3,439 cases. The institutions were located in 49 of the 50 states plus the District of Columbia, Puerto Rico and countries outside the U.S. Only Alaska, of the 50 states, was not represented. The highest number of doctorates came from institutions located in Florida (366 or 10.6%), followed by California (293 or 8.5%), Texas (252 or 7.3%), and New York (201 or 5.8%).

Information on year of doctoral degree was available for 3,068 cases. The year the doctorate was awarded ranged over 40 years from 1950 to 1990. The median year for receipt of the doctorate was 1976. The largest numbers of doctorates (202) were awarded in 1973.

Age at receipt of doctorate was available for 3,004 cases and ranged over 41 years from 22 to 63 years of age. The mean age was 37, the median 36 years, and the modal age was 35 years.

#### Pre-doctoral Employment

Employment three months prior to beginning doctoral study was reported for 3,026 cases. Employment in two-year community, technical, and junior colleges was most common (1,544 or 51%). Employment at four-year colleges and universities was reported by 534 (17.6%), in an elementary or secondary system by 467 (15.4%), and by another employer

by 304 (10.0%). Comments by 153 (5.1%) indicated they were students prior to beginning doctoral study, and 24 (0.8%) indicated that they were unemployed.

State of pre-doctoral employment was available for 2,773 cases. Employment was reported in all 50 states plus the District of Columbia, Puerto Rico, and countries outside the United States. California (268 or 9.7%) and Texas (208 or 7.5%) were reported most frequently.

Primary work activity three months prior to beginning doctoral study was reported for 3,028 cases. Administration (1,371 or 45.3%) was most frequently reported followed by teaching (928 or 30.6%). Each other category of primary work activity was reported by 6% or less of the respondents.

#### Post-doctoral Employment

Employment three months after completion of the doctorate was reported for 3,034 cases. Employment in two-year community, technical, and junior colleges was most common (2,027 or 66.8%). Employment at four-year colleges and universities was reported by 632 (20.8%), in an elementary or secondary school system by 129 (4.3%), and by another employer by 227 (7.5%). Comments by 2 (0.1%) indicated they were students after completing the doctorate, and 17 (0.6%) indicated they were unemployed.

State of post-doctoral employment was reported for 2,842 cases. Employment was reported in all 50 states plus the District of Columbia, American Samoa, Puerto Rico, and countries outside the United States. California (290 or 10.2%) and Texas (198 or 7.0%) were reported most frequently.

Primary work activity three months after completion of the doctorate was reported for 3,031 cases. Administration (1,865 or 61.5%) was most frequently reported followed by teaching (668 or 22.0%). Each other category of primary work activity was reported by less than 6% of the respondents.

States for all post-doctoral employment as a two-year college administrator were reported by 3,023 doctoral recipients. The majority (2,343 or 77.5%) reported working in only one state, while 680 (22.%) reported working in two or more states after completing their doctoral degree.

#### Demographic Information

Demographic information on the respondents included gender, age, race, and ethnic origin. Gender was available for 3,059 cases. Males accounted for 2,334 (76.3%) and females for 725 (23.7%) of the administrators.

Age of the respondents, available for 2,996 cases, ranged over 47 years from 29 to 76 years of age. Both the

mean and median were 50 years of age. The mode was 47 years reported by 198 (6.6%) of the administrators.

Race was reported for 3,040 cases. White was reported most frequently (2,740 or 90.1%). Minority races, using National Research Council categories, were reported as American Indian or Alaskan native (46 or 1.5%), Asian or Pacific islanders (30 or 1.0%), Black (213 or 7.0%), and other (11 or 0.4%).

The question on Hispanic origin was answered by 2,981 respondents. Of these, 96 (3.2%) indicated that they considered their ethnic heritage to be Hispanic.

#### Current Employment

The three data elements of manpower code, institutional control, and state of current employment were a part of the HEP database and were available for all cases. The positions reported most frequently by the doctoral recipients were president (840 or 23.0%), chief academic officer (635 or 17.4%), deans or directors of instructional program areas (538 or 14.7%), and chair of student life (270 or 7.4%).

Control of the employing institution was reported as either public (3,426 or 93.9%) or private (223 or 6.1%). State of current employment indicated that all 50 states plus American Samoa and Puerto Rico were represented. No

current employment was reported in the District of Columbia, and by definition the population did not include any individuals currently employed in countries other than the United States.

### Regional Designations

Data on regions of the United States were compiled by the researcher from state locations. Tables 4.3 and 4.4 show the populations in each of the regions for the four defined periods of analysis: doctoral-granting institution, pre-doctoral employment, post-doctoral employment, and current employment.

### **Profile of Graduates of Community College/Higher Education Doctoral Programs Employed as Two-year College Administrators**

#### The Doctoral Degree

Of the 1,473 administrators whose doctoral education emphasized community college or higher education, 885 (60.1%) reported that they held the Ed.D., 582 (39.5%) the Ph.D., 3 (0.2%) the D.A. and 3 (0.2%) other doctoral degrees. These 1,473 administrators represent 48.4% of the 3,043 cases for which both degree and major were known.

Table 4.3

Doctoral Degrees by Region of the Degree-granting Institution

Region	Doctoral Degrees	
	Number	Percent
North	495	14.5
South	1365	39.9
Midwest	871	25.4
West	686	20.1
Total	3417	100.0

Table 4.4

Regions of Pre-doctoral, Post-doctoral, and Current Employment (All Doctoral Degrees)

Region	Employment					
	Pre-Doctoral		Post-doctoral		Current	
	No.	%	No.	%	No.	%
North	442	16.2	447	15.9	623	17.1
South	1072	39.3	1121	39.8	1428	39.1
Midwest	672	24.6	672	23.9	769	21.1
West	542	19.9	576	20.5	829	22.7
Total	2728	100.0	2816	100.0	3649	100.0



The doctoral-granting institution was reported for all but 3 of the graduates of higher education doctoral programs. A total of 165 different institutions were reported with the number of graduates per institution ranging from 1 to 141. Of these institutions, 35 (21.2%) were represented by only one doctorate, while 130 (78.8%) were represented by 2 or more doctorates. The ten institutions with the largest number of community college or higher education doctorates serving as two-year college administrators are shown in Table 4.5. Over one-third (494) of the community college or higher education doctoral recipients employed in 1990 had graduated from these ten institutions. This list is generated solely on the basis of total productivity of institutions which awarded community college/higher education doctorates as reported by currently employed two-year college administrators. No reference is made to program quality or other influencing factors such as the number of years a program may have been offering a doctoral program with emphasis in community college or higher education.

State of doctoral-granting institution was known for 1,463 cases. Only 45 of the 50 states plus the District of Columbia were represented by community college or higher education doctorates. Alaska, Hawaii, Maine, New Hampshire, Rhode Island, American Samoa, Puerto Rico, and countries

Table 4.5

Institutions with over 25 Community College or Higher Education Doctoral Recipients Currently Employed as Administrators in Two-year Colleges

Institution	Number	Percent
Nova University	141	9.6
University of Texas at Austin (plus 6 University of Texas graduates with no campus)	58	4.4
North Carolina State University	50	3.4
University of Florida	45	3.1
Michigan State University	41	2.8
University of Southern California	39	2.7
Florida State University	38	2.6
Virginia Polytechnic Institute and State University	30	2.0
UCLA	26	1.8
University of Northern Colorado	26	1.8
Total	494	34.0

outside the United States were not represented among these doctoral institutions. The states producing the largest numbers of these doctorates were Florida (234 or 16.0%), Texas (130 or 8.9%), and California (116 or 7.9%)

Information on year of doctoral degree was available for 1,470 cases. The year the doctorate was awarded ranged over 38 years from 1952 to 1990. The median year for receipt of the doctorate was 1978. The most degrees awarded in one year were 91 doctorates in 1973 and 95 doctorates in 1979.

Age at receipt of doctorate was available for 1,457 cases and ranged over 41 years from 22 to 63 years of age. Both the mean and median age at receipt of the doctorate were 38 years of age. The mode was 40 years.

#### Pre-doctoral Employment

Employment three months prior to beginning doctoral study was reported for 1,468 cases. Employment in two-year community, technical, and junior colleges was most common (1,003 or 68.3%). Employment at four-year colleges and universities was reported by 220 (15.0%), in an elementary or secondary system by 130 (8.9%), and by another employer by 82 (5.6%). Comments by 29 (2.0%) indicated they were students prior to beginning doctoral study, and 4 (0.3%) indicated that they were unemployed.

State of pre-doctoral employment was available for 1,360 cases. Employment was reported in 48 of the 50 states plus the District of Columbia, Puerto Rico, and countries outside the United States. Maine and South Dakota were not represented among the doctoral-granting institutions. California (143 or 10.5%) and Texas (115 or 8.5%) were represented most frequently.

Primary work activity three months prior to beginning doctoral study was reported for 1,471 cases. Administration (896 or 60.9%) was most frequently reported followed by teaching (344 or 23.4%). Each other category of primary work activity was reported by less than 6% of the respondents.

#### Post-doctoral Employment

Employment three months after completion of the doctorate was reported for 1,471 cases. Employment in two-year community, technical, and junior colleges was most common (1,180 or 80.2%). Employment at four-year colleges and universities was reported by 200 (13.6%), in an elementary or secondary school system by 24 (1.6%), and by another employer by 61 (4.1%). Comments by 6 (0.4%) indicated they were unemployed.

State of post-doctoral employment was reported for 1,375 cases. Employment was reported in all 50 states plus

the District of Columbia, Puerto Rico, and countries outside the United States. California (155 or 11.3%), Texas (104 or 7.6%), and Florida (100 or 7.3%) were reported most frequently.

Primary work activity three months after completion of the doctorate was reported for 1,471 cases. Administration (1,172 or 79.7%) was most frequently reported followed by teaching (137 or 9.3%). Each other category of primary work activity was reported by less than 4% of the respondents.

States of all post-doctoral employment as a two-year college administrator were reported by 1,464 community college or higher education doctoral recipients. The majority, 1,109 (75.5%) reported working in only one state. Only 355 (24.2%) reported working in two or more states.

#### Demographic Information

Demographic information on the community college or higher education doctorates included gender, age, race, and ethnic origin. Gender was available for 1,472 cases. Males accounted for 1,128 (76.6%) and females for 344 (23.4%) of the doctorates. Age of the respondents, available for 1,455 cases, ranged over 44 years from 32 to 76 years of age. Both the mean and median were 50 years of age. The mode was 47 years reported by 102 (7.0%) of the administrators.

Race was reported for 1,465 cases. White (1,304 or 89.0%) was the most frequently reported race. Minority races, using National Research Council categories, were reported as American Indian or Alaskan native (29 or 2.0%), Asian or Pacific islanders (16 or 1.1%), Black (111 or 7.6%), and other (5 or 0.3%).

The question on Hispanic origin was answered by 1,442 respondents. Of these, 45 (3.1%) indicated that they considered their ethnic heritage to be Hispanic.

#### Current Employment

The three data elements of manpower code, institutional control, and state of current employment, as a part of the HEP database, were available for all cases. The positions reported most frequently by the doctoral recipients were president (360 or 24.4%), chief academic officer (239 or 16.2%), deans or directors of instructional program areas (228 or 15.5%), and chair of student life (130 or 8.8%).

Control of the employing institution was reported as either public (1,428 or 96.9%) or private (45 or 3.1%). State of current employment indicated that 48 of the 50 states plus Puerto Rico were represented. No current employment was reported in Alaska, South Dakota, District of Columbia, or American Samoa. By definition, the population

did not include any individuals currently employed in countries other than the United States.

### Regional Designations

Data on regions of the United States were compiled by the researcher from state locations. Tables 4.6 and 4.7 show the populations in each of the regions for the four defined periods of analysis: doctoral-granting institution, pre-doctoral employment, post-doctoral employment, and current employment.

#### **Doctoral-Granting Institutions Supplying Community College/Higher Education Doctorates for the Two-year College Administrative Labor Market**

Of the 87 institutions identified by Townsend (correspondence) as offering higher education doctoral programs in 1987, 82 were represented by the community college/higher education doctorates employed in 1990 as two-year college administrators (see Table 4.8). Community college/higher education doctorates were reported from 165 different doctoral-granting institutions. Subtracting the 82 on the Townsend list for 1987, there are 83 additional institutions reported by graduates as awarding a community college/higher education doctorate. Of these 83 additional institutions, 49 were reported by only 1 or 2 individuals.

Table 4.6

Community College/Higher Education Doctoral Degrees by  
Region of the Degree-granting Institution

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Region	Doctoral Degrees	
	Number	Percent
North	158	10.8
South	662	45.3
Midwest	341	23.3
West	301	20.6
Total	1462	100.0

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Table 4.7

Regions of Pre-doctoral, Post-doctoral, and Current Employment (Community College or Higher Education Doctoral Degrees)

Region	Employment					
	Pre-Doctoral		Post-doctoral		Current	
	No.	%	No.	%	No.	%
North	176	13.1	180	13.1	198	13.4
South	555	41.3	562	41.1	596	40.5
Midwest	325	24.2	325	23.7	324	22.0
West	288	21.4	302	22.1	355	24.1
Total	1,344	100.0	1,369	100.0	1,473	100.0

Table 4.8

Community College or Higher Education Doctorates Reported by Two-year College Administrators as Coming from Institutions on the Townsend List of Higher Education Doctoral Programs in Existence as of 1987.

Research I Institutions	No.
1. Indiana University	22
2. Michigan State University	41
3. North Carolina State University	50
4. New York University	10
5. Ohio State University	20
6. Peabody College of Vanderbilt University (7 VU + 3 PC)	10
7. Pennsylvania State University	9
8. Stanford University	2
9. Texas A & M University	12
10. University of Arizona	11
11. University of California - Berkeley	17
12. University of California - Los Angeles	26
13. University of Connecticut	11
14. University of Florida	45
15. University of Georgia	8
16. University of Hawaii - Manoa	0
17. University of Illinois - Champaign	14

18. University of Iowa	8
19. University of Kentucky	2
20. University of Maryland	4
21. University of Miami	3
22. University of Michigan	21
23. University of Minnesota	9
24. University of Missouri - Columbia	14
25. University of North Carolina - Chapel Hill	3
26. University of Pennsylvania	7
27. University of Pittsburgh	14
28. University of Rochester	2
29. University of Southern California	39
30. University of Texas, Austin	58
31. University of Utah	6
32. University of Virginia	9
33. University of Wisconsin, Madison	8

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Research II Institutions	No.
1. Arizona State University	18
2. Florida State University	38
3. George Washington University	8
4. Iowa State University	7
5. Oklahoma State University	13
6. Southern Illinois University	25

7. SUNY Buffalo	10
8. University of Kansas	11
9. University of Massachusetts at Amherst	14
10. University of Nebraska at Lincoln	4
11. University of Oklahoma	4
12. University of Oregon	7
13. University of South Carolina	6
14. Washington State University	7
15. West Virginia State University	4
16. Wayne State University	10

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Doctoral I Institutions	No.
1. Boston College	7
2. Bowling Green State University	4
3. Brigham Young University	19
4. Claremont Graduate School	5
5. College of William And Mary	9
6. Florida Atlantic University	5
7. Georgia State University	3
8. Kent State University	3
9. Loyola University of Chicago	5
10. Memphis State University	4
11. North Texas State University	12
12. Nova University	141

13. Ohio University	11
14. St. Louis University	6
15. Teachers College of Columbia University	21
16. Texas Tech University	5
17. University of Akron	3
18. University of Alabama	23
19. University of Arkansas	9
20. University of Denver	3
21. University of Houston	12
22. University of Mississippi	19
23. University of Northern Colorado	26
24. University of Toledo	6

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Doctoral II Institutions	No.
1. East Texas University	25
2. Illinois State University	16
3. Indiana State University	3
4. Montana State University	2
5. Northeastern University	1
6. Northern Arizona State University	4
7. Portland State University	0
8. University of Idaho	1
9. University of Missouri at Kansas City	1

10. University of Vermont	1
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Comprehensive Univ & Colleges I	No.
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1. Indiana University of Pennsylvania	0
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2. Seton Hall University	3
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3. Texas Southern University	0
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4. Widener University	0
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The 34 institutions reported by 3 or more individuals are listed in Table 4.9. These institutions may not have been included in the Townsend list because: (a) the programs may not have been active in 1987, (b) the program director may not have responded to the Townsend study, (c) the program may be small and not well known, or (d) the respondent for this survey may have reported a doctoral degree emphasis not officially recognized by the institution.

**Regional Analysis of  
Community College/Higher Education Doctorates**

Doctoral Institution and Pre-doctoral Employment

Table 4.10 shows the movement of two-year college administrators by plotting the region of their employment three months prior to beginning doctoral study against the region of their doctoral-granting institution. This reflects recruitment into community college/higher education doctoral programs.

Each region showed evidence of pre-doctoral employment primarily in the same region as the doctoral-granting institution. The total chi-square value is over 2000 and the probability of chance is near 0. Movement among regions is not random. The analysis provides evidence that pre-doctoral location is significantly associated with the

Table 4.9

Institutions Reported by Three or More Individuals as Awarding a Doctorate Emphasizing Community College/Higher Education, but not Included in the Townsend List of Higher Education Doctoral Programs for 1987.

Institution	No.
Auburn University	23
Boston University	5
Catholic University of America	4
Colorado State University	9
Duke University	10
Eastern Tennessee State University	4
Gonzaga University	3
Harvard University	4
Kansas State University	14
Lehigh University	5
Mississippi State University	5
Northern Illinois University	15
Northwestern University	3
Oregon State University	17
Pepperdine University	6
Rutgers University	7
SUNY Albany	9
Temple University	5
University of Colorado	13



University of La Verne	3
University of Nebraska	3
University of North Carolina - Greensboro	3
University of San Diego	3
University of San Francisco	9
University of Sarasota	5
University of South Dakota	4
University of Southern Mississippi	15
University of Tennessee	5
University of the Pacific	4
University of Washington	14
University of Wyoming	8
Utah State University	4
Virginia Polytechnic Institute and State University	30
Western Michigan University	6

Table 4.10

Regional Contingency Table for Community College or Higher Education Doctorates: Region of Doctoral-granting Institution by Region of Pre-doctoral Employment

Region of Doctoral Institution	Pre-doctoral Employment Region				Totals
	North	South	Midwest	West	
North	121 85.2%	13 9.2%	5 3.5%	3 2.1%	142 10.7%
South	36 5.9%	489 79.5%	41 6.7%	49 8.0%	615 46.1%
Midwest	11 3.6%	33 10.7%	255 82.8%	9 2.9%	308 23.1%
West	6 2.2%	15 5.6%	21 7.8%	226 84.3%	268 20.1%
Totals	174 13.1%	550 41.3%	322 24.2%	287 21.5%	1333 100%

Chi-square (9) = 2230.568, pr < .0000

location of the individual's doctoral-granting institution. To determine whether individuals tend to attend doctoral institutions within their geographic region requires examination of individual cells of the contingency table. Such an examination reveals that the paired regions on the diagonal (e.g. pre-doctoral employment and doctoral-granting institution both in the North) all show the largest numbers. The off-diagonal cells (i.e. movement from one region to another) all show relatively small numbers. For example 121 (85.2%) of the individuals receiving community college/higher education doctorates from an institution in the North came from pre-doctoral employment in the North. Only 13 (9.2%) came from the South, 5 (3.5%) came from the Midwest, and 3 (2.1%) came from the West. The same pattern is repeated for each doctoral-granting region.

Within regions, state boundaries have also been shown to be an influencing factor (Clark, 1988/89). Those who earned their doctorate within the pre-doctoral state of employment would be expected to influence the regional patterns, since by definition same-state pairs are also same-region pairs. To investigate the independent strength of regional movement apart from those who stayed in the same state, a contingency table was constructed with same-state pairs deleted. Of the 1,333 cases, 856 (64.2%) were same-state pairs. Thus, a majority of individuals received their

doctorate from an institution in the same state where they were employed three months prior to beginning doctoral study. The 477 cases of movement from one state to another are represented in Table 4.11.

For Table 4.11, the chi square is 117 and the probability of chance is near 0. The regional movement of those changing states is not random. Evidence is provided that the pre-doctoral location is significantly associated with the location of the individual's doctoral-granting institution for those individuals changing states. The diagonal pairs are still evident for three of the four pairs, but are less pronounced than when same-state pairs were included. Same-region (diagonal) pairs for the North showed 17 cases (44.7%), for the South 135 cases (51.7%), and for the West 52 cases (55.3%). The number of off-diagonal pairs showing movement from one region to another are the same as in Table 4.14, but the percentages are higher because same-state pairs are removed from the diagonal pairs.

Contingency table analysis excluding Nova University doctorates was undertaken based on two considerations: (a) Nova University is the largest cumulative producer of community college/higher education doctorates in this labor market, and (b) Nova is known for extensive use of a field-based model of doctoral education. Thus it has a potential

Table 4.11

Regional Contingency Table for Community College or Higher Education Doctorates: Region of Doctoral-granting Institution by Region of Pre-doctoral Employment Eliminating Same State for Pre-Doctoral Employment and Doctoral Institution

Region of Doctoral Institution	Pre-doctoral Employment Region				Totals
	North	South	Midwest	West	
North	17 44.7%	13 34.2%	5 13.2%	3 7.9%	38 8.0%
South	36 13.8%	135 51.7%	41 15.7%	49 18.8%	261 54.7%
Midwest	11 13.1%	33 39.3%	31 36.9%	9 10.7%	84 17.6%
West	6 6.4%	15 16.0%	21 22.3%	52 55.3%	94 19.7%
Totals	70 14.7%	196 41.1%	98 20.5%	113 23.7%	477 100%

Chi-square (9) = 117.6247, pr <.0000

for altering the pattern of regional relationships at each of the three employment periods.

In Table 4.12 Nova University doctorates have been eliminated from the regional analysis for pre-doctoral employment location. Since Nova University is located in the South, all of the changes from Table 4.10 are in the row for doctoral institutions from the South. This procedure removes 19 from the column for pre-doctoral employment in the North, 63 from pre-doctoral employment in the South, 27 from pre-doctoral employment in the Midwest, and 24 from pre-doctoral employment in the West. Compared with Table 4.10, this procedure strengthens the same-region diagonal pairs by increasing the percent of doctorates from the South who are employed in the South three months prior to beginning the doctorate.

#### Doctoral Institution and Post-doctoral Employment

Table 4.13 shows the movement of two-year college administrators by plotting the region of their employment three months after completing doctoral study against the region of their doctoral-granting institution. This may reflect either immediate post-doctoral placement or continuation of previous employment.

Each region showed evidence of post-doctoral employment primarily in the same region as the doctoral-granting

Table 4.12

Regional Contingency Table for Community College or Higher Education Doctorates: Region of Doctoral-granting Institution by Region of Pre-doctoral Employment Eliminating Nova University Doctorates

Region of Doctoral Institution	Pre-doctoral Employment Region				Totals
	North	South	Midwest	West	
North	121 85.2%	13 9.2%	5 3.5%	3 2.1%	142 11.8%
South	17 3.5%	426 88.4%	14 2.9%	25 5.2%	482 40.2%
Midwest	11 3.6%	33 10.7%	255 82.8%	9 2.9%	308 25.7%
West	6 2.2%	15 5.6%	21 7.8%	226 84.3%	268 22.3%
Totals	155 12.9%	487 40.6%	295 24.6%	263 21.9%	1200 100.0%

Chi-square (9) = 2293.25, pr < .0000

Table 4.13

Regional Contingency Table for Community College or Higher Education Doctorates: Region of Doctoral Institution by Region of Post-doctoral Employment

Region of Doctoral Institution	Post-doctoral Employment Region				Totals
	North	South	Midwest	West	
North	120 81.6%	17 11.6%	6 4.1%	4 2.7%	147 10.8%
South	39 6.3%	485 77.7%	53 8.5%	47 7.5%	624 45.9%
Midwest	14 4.5%	42 13.5%	239 76.8%	16 5.1%	311 22.9%
West	6 2.2%	14 5.1%	24 8.7%	233 84.1%	277 20.4%
Totals	179 13.2%	558 41.1%	322 23.7%	300 22.1%	1359 100%

Chi-square (9) = 2059.486, pr < .0000



institution. The total chi-square value is over 2000 and the probability of chance is near 0. Evidence is provided that the post-doctoral location is significantly associated with the location of the individual's doctoral-granting institution. Whether post-doctoral employment (measured three months after receiving the degree) tends to be within the same geographic region as the doctoral-granting institution requires examination of individual cells of the contingency table. Such an examination reveals that the paired regions on the diagonal (e.g. post-doctoral employment and doctoral-granting institution both in the North) all show the largest numbers. The off-diagonal cells (i.e. movement from one region to another) all show relatively small numbers. For example, 120 (81.6%) of the individuals receiving community college/higher education doctorates from an institution in the North also worked in the North three months after receiving their degree. Only 17 (11.6%) worked in the South, 6 (4.1%) worked in the Midwest, and 4 (2.7%) worked in the West. The same pattern is repeated for each doctoral-granting region.

Those who, three months after receiving the doctorate, were employed in the same state as the doctoral-granting institution would be expected to influence the regional patterns, since same-state pairs are also same-region pairs. To investigate the independent strength of regional movement

apart from those who stayed in the same state, a contingency table (Table 4.14) was constructed with same state pairs deleted. Of the 1,359 cases, 791 (58.2%) were same state pairs. Thus, a majority of individuals received their doctorate from an institution in the same state where they were employed three months after completing doctoral study. The 568 cases of movement from one state to another are represented in Table 4.14.

For Table 4.14, the chi square is 156 and the probability of chance is near 0. The regional movement of those changing states is not random. Evidence is provided that the post-doctoral employment location of those changing states is significantly associated with the individual's doctoral-granting institution. The diagonal pairs are still evident for all four regional pairs. Same-region (diagonal) pairs for the North showed 21 cases (43.8%), for the South 156 cases (52.9%), for the Midwest 56 cases (43.8%), and for the West 53 cases (54.6%). The number of off-diagonal pairs showing movement from one region to another are the same as in Table 4.10, but the percentages are higher because same-state pairs are removed from the diagonal pairs.

In Table 4.15, Nova University doctorates have been eliminated from the regional analysis for post-doctoral employment location. Since Nova University is located in the South, all of the changes from Table 4.13 are in the row

Table 4.14

Regional Contingency Table for Community College or Higher Education Doctorates: Region of Doctoral Institution by Region of Post-doctoral Employment Eliminating Same State for Doctoral Institution and Post-Doctoral Employment

Region of Doctoral Institution	Post-doctoral Employment Region				Totals
	North	South	Midwest	West	
North	21 43.8%	17 35.4%	6 12.5%	4 8.3%	48 8.5%
South	39 13.2%	156 52.9%	53 18.0%	47 15.9%	295 51.9%
Midwest	14 10.9%	42 32.8%	56 43.8%	16 12.5%	128 22.5%
West	6 6.2%	14 14.4%	24 24.7%	53 54.6%	97 17.1%
Totals	80 14.1%	229 40.3%	139 24.5%	120 21.1%	568 100%

Chi-square (9) = 156.0044, pr < .0000

Table 4.15

Regional Contingency Table for Community College or Higher Education Doctorates: Region of Doctoral Institution by Region of Post-doctoral Employment Eliminating Nova University Doctorates

Region of Doctoral Institution	Post-doctoral Employment Region				Totals
	North	South	Midwest	West	
North	120 81.6%	17 11.6%	6 4.1%	4 2.7%	14 12.0%
South	20 4.1%	419 85.7%	26 5.3%	24 4.9%	489 40.0%
Midwest	14 4.5%	42 13.5%	239 76.8%	16 5.1%	311 25.4%
West	6 2.2%	14 5.1%	24 8.7%	233 84.1%	277 22.6%
Totals	160 13.1%	492 40.2%	295 24.1%	277 22.6%	1224 100.0%

Chi-square (9) = 2104.201, pr < .0000

for doctoral institutions from the South. This procedure removes 19 from the column for post-doctoral employment in the North, 66 from post-doctoral employment in the South, 27 from post-doctoral employment in the Midwest, and 23 from post-doctoral employment in the West. Compared to Table 4.13, this procedure strengthens the same-region diagonal pairs by increasing the percent of doctorates from the South who are employed in the South three months after completing the doctorate.

#### Doctoral Institution and Current Employment

Table 4.16 shows the movement of two-year college administrators by plotting the region of their current employment against the region of their doctoral-granting institution. This reflects net movement over the period from degree completion to current employment.

Each region showed evidence of current employment primarily in the same region as the doctoral-granting institution. The total chi-square value is nearly 2000 and the probability of chance is near 0. Movement among regions is not random. Evidence is provided that current location is significantly associated with location of the individual's doctoral-granting institution. Whether current location tends to be within the same geographic region as the doctoral-granting institution requires examination of

Table 4.16

Regional Contingency Table for Community College or Higher Education Doctorates: Region of Doctoral Institution By Region of Current Employment

Region of Doctoral Institution	Current Employment Region				Totals
	North	South	Midwest	West	
North	123 77.8%	16 10.1%	11 7.0%	8 5.1%	158 10.8%
South	42 6.3%	504 76.1%	54 8.2%	62 9.4%	662 45.3%
Midwest	22 6.5%	55 16.1%	233 68.3%	31 9.1%	341 23.3%
West	9 3.0%	18 6.0%	22 7.3%	252 83.7%	301 20.6%
Totals	196 13.4%	593 40.6%	320 21.9%	353 24.1%	1462 100.0%

Chi-square (9) = 1928.768, pr < .0000

individual cells of the contingency table. Such an examination reveals that the paired regions on the diagonal (e.g. current employment and doctoral-granting institution both in the North) all show the largest numbers. The off-diagonal cells (i.e. movement from one region to another) all show relatively small numbers. For example, 120 (81.6%) of the individuals receiving community college/higher education doctorates from an institution in the North also worked in the North three months after receiving their degree. Only 17 (11.6%) worked in the South, 6 (4.1%) worked in the Midwest, and 4 (2.7%) worked in the West. The same pattern is repeated for each doctoral-granting region.

Those who are currently employed in the same state as the doctoral-granting institution would be expected to influence the regional patterns, since same-state pairs are also same-region pairs. To investigate the independent strength of regional movement apart from those who are now in the same state as their doctoral institution, a contingency table was constructed with same-state pairs deleted. Of the 1,462 cases, 719 (49.2%) were same-state pairs. Thus, nearly half of individuals received their doctorate from an institution in the same state where they are currently employed. The 743 cases of movement from one state to another are represented in Table 4.17. For Table 4.17, the chi square is 265 and the probability of chance is

Table 4.17

United States Regional Contingency Table for Community College or Higher Education Doctorates: Region of Doctoral Institution By Region of Current Employment Eliminating Same State for Doctoral Institution and Current Employment

Region of Doctoral Institution	Current Employment Region				Totals
	North	South	Midwest	West	
North	34 49.3%	16 23.2%	11 15.9%	8 11.6%	69 9.3%
South	42 12.0%	191 54.7%	54 15.5%	62 17.8%	349 47.0%
Midwest	22 11.3%	55 28.4%	86 44.3%	31 16.0%	194 26.1%
West	9 6.9%	18 13.7%	22 16.8%	82 62.6%	131 17.6%
Totals	107 14.4%	280 37.7%	173 23.3%	183 24.6%	743 100.0%

Chi-square (9) = 265.2269, pr < .0000



near 0. The regional movement of those changing states is not random. Evidence is provided that the current location of those who changed states is significantly associated with location of the individual's doctoral-granting institution. Diagonal pairs are still evident for all four regional pairs. Same-region (diagonal) pairs for the North showed 34 cases (49.3%), for the South 191 cases (54.7%), for the Midwest 86 cases (44.3%), and for the West 82 cases (62.6%). The off-diagonal pairs showing movement from one region to another are generally less frequent. For individuals earning their doctorates in the North and Midwest, current employment in the South is higher than for other off-diagonal pairs.

In Table 4.18, Nova University doctorates have been eliminated from the regional analysis for current employment location. Since Nova University is located in the South, all of the changes from Table 4.16 are in the row for doctoral institutions from the South. This procedure removes 17 from the column for current employment in the North, 67 from the current employment in the South, 27 from current employment in the Midwest, and 30 from current employment in the West. Compared to Table 4.16, this procedure strengthens the same-region diagonal pairs by increasing the percent of doctorates from the South who are

Table 4.18

Regional Contingency Table for Community College or Higher Education Doctorates: Region of Doctoral Institution by Region of Current Employment Eliminating Nova University Doctorates

Region of Doctoral Institution	Current Employment Region				Totals
	North	South	Midwest	West	
North	123 77.8%	16 10.1%	11 7.0%	8 5.1%	158 12.0%
South	25 4.8%	437 83.9%	27 5.2%	32 6.1%	521 39.4%
Midwest	22 6.5%	55 16.1%	233 68.3%	31 9.1%	341 25.8%
West	9 3.0%	18 6.0%	22 7.3%	252 83.7%	301 22.8%
Totals	179 13.6%	526 39.8%	293 22.2%	323 24.5%	1321 100.0%

Chi-square (9) = 1975.414, pr < .0000

employed in the South three months after completing the doctorate.

#### Length of Time Since Earning Doctorate

Tables 4.19 through 4.22 show the regional analysis for current employment location giving consideration for the length of time since earning the doctorate. In Tables 4.19 and 4.20 the portion of the data for doctorates earned ten or less years ago and for doctorates earned more than ten years ago (based on 1990 current employment) are separately analyzed. Both tables show evidence of strong in-region tendencies. Therefore, the data was reanalyzed for the portion of doctorates earned five or less years ago (Table 4.21) and for those earned fifteen or more years ago (Table 4.22). Again, strong regional tendencies appear in both tables, even with the increased contrast in length of time since earning the doctorate.

#### **In-state Employment**

The extent of in-state employment for each of the ten doctoral-granting institutions with the highest numbers of community college/higher education doctorates is shown in Tables 4.23 to 4.25. Table 4.23 shows how many of the doctoral recipients were located in the same state as their doctoral-granting institution three months prior to

Table 4.19

Regional Movement of Community College/Higher Education  
Doctoral Recipients (Doctorate Earned Ten or Less Years Ago)

Region of Doctoral Institution	Current Employment Region				Totals
	North	South	Midwest	West	
North	66 82.5%	6 7.5%	5 6.3%	3 3.8%	80 13.6%
South	19 6.9%	189 69.0%	32 11.7%	34 12.4%	274 46.7%
Midwest	4 3.4%	8 6.7%	98 82.4%	9 7.6%	119 20.3%
West	2 1.8%	3 2.6%	5 4.4%	104 91.2%	114 19.4%
Totals	91 15.5%	206 35.1%	140 23.9%	150 25.6%	587 100%

Chi-square (9) = 895.5398, pr < .0000

Table 4.20

Regional Movement of Community College/Higher Education  
Doctoral Recipients (Doctorate Earned More than Ten Years  
Ago)

Region of Doctoral Institution	Current Employment Region				Totals
	North	South	Midwest	West	
North	57 73.1%	10 12.8%	6 7.7%	5 6.4%	78 8.9%
South	23 5.9%	315 81.2%	22 5.7%	28 7.2%	388 44.3%
Midwest	18 8.1%	47 21.2%	135 60.8%	22 9.9%	222 25.4%
West	7 3.7%	15 8.0%	17 9.1%	148 79.1%	187 21.4%
Totals	105 12.0%	387 44.2%	180 20.6%	203 23.2%	875 100%

Chi-square (9) = 1043.417, pr < .0000

Table 4.21

Regional Movement of Community College/Higher Education Doctoral Recipients (Doctorate Earned Five or Less Years Ago)

Region of Doctoral Institution	Current Employment Region				Totals
	North	South	Midwest	West	
North	28 80.0%	4 11.4%	2 5.7%	1 2.9%	35 12.7%
South	8 6.3%	95 74.8%	10 7.9%	14 11.0%	127 46.2%
Midwest	0 0%	2 3.6%	48 87.3%	5 9.1%	55 20.0%
West	1 1.7%	0 0%	5 8.6%	52 89.7%	58 21.1%
Totals	37 13.5%	101 36.7%	65 23.6%	72 26.2%	275 100%

Chi-square (9) = 458.9653, pr < .0000

Table 4.22

Regional Movement of Community College/Higher Education  
Doctoral Recipients (Doctorate Earned Fifteen or More Years  
Ago)

Region of Doctoral Institution	Current Employment Region				Totals
	North	South	Midwest	West	
North	37 69.8%	8 15.1%	6 11.3%	2 3.8%	53 9.6%
South	7 3.4%	186 89.4%	5 2.4%	10 4.8%	208 37.5%
Midwest	10 6.3%	38 23.9%	94 59.1%	17 10.7%	159 28.7%
West	5 3.7%	10 7.5%	13 9.7%	106 79.1%	134 24.2%
Totals	59 10.6%	242 43.7%	118 21.3%	135 24.4%	554 100%

Chi-square (9) = 728.8607, pr < .0000

Table 4.23

Range of In-state Employment by Percent of Pre-doctoral  
Employment in Same State as Doctoral-granting Institution

Rank	Institution	Number	%
1	North Carolina State University	43	91.5
2	University of Southern California	32	88.9
3	UCLA	18	78.3
4	University of Florida	28	68.3
5	Michigan State University	25	65.8
6	Virginia Polytechnic Institute and State University	16	57.1
7	University of Texas at Austin	30	52.6
8	Florida State University	19	51.4
9	University of Northern Colorado	9	39.1
10	Nova University	20	14.9



Table 4.24

Range of In-state Employment as a Percent of Post-doctoral Employment (after three months) in Same State as Doctoral-granting Institution

Rank	Institution	Number	%
1.5	North Carolina State University	44	91.7
1.5	UCLA	22	91.7
3	University of Southern California	31	88.6
4	University of Florida	31	70.5
5.5	Michigan State University	19	50.0
5.5	Florida State University	19	50.0
7	University of Northern Colorado	11	45.8
8	Virginia Polytechnic Institute and State University	13	44.8
9.5	University of Texas at Austin	25	44.6
9.5	Nova University	21	15.6

Table 4.25

Range of In-state Employment as a Percent of Current  
Employment in Same State as Doctoral-granting Institution

Rank	Institution	Number	%
1	University of Southern California	33	84.6
2	North Carolina State University	42	84.0
3	UCLA	21	80.8
4	University of Florida	27	60.0
5	Florida State University	18	47.4
6	University of Texas at Austin	23	39.7
7	Virginia Polytechnic Institute and State University	11	36.7
8	Michigan State University	15	36.6
9	University of Northern Colorado	9	34.6
10	Nova University	20	14.2

beginning doctoral studies. Table 4.24 shows how many were employed in the same state as their doctoral-granting institution three months after completing doctoral studies. Table 4.25 shows how many were currently (as of 1990) employed in the same state as their doctoral-granting institution. Nova University consistently has the lowest percentage of their graduates in-state at the pre-doctoral, post-doctoral, and current employment time periods. Three institutions (North Carolina, University of Southern California, and UCLA) consistently have the highest percentage of in-state employment at the same three time periods.

For employment three months prior to beginning doctoral studies, the percentage of in-state employment ranges from 14.9% to 91.5%. Three months after doctoral studies, the range is 15.6% to 91.7%. Current (1990) employment in-state ranges from 14.2% to 84.6%.

### **In-region Employment**

In-region employment for the ten institutions granting the largest number of community college/higher education doctorates is analyzed using the four U.S. regions: North, South, Midwest, and West. Employment in the same region as the doctoral-granting institution is shown in Tables 4.26 to 4.28. Table 4.26 shows employment three months prior to

Table 4.26

Range of In-region Employment as a Percent of Pre-doctoral  
Employment in Same Region as the Doctoral-granting  
Institution

Rank	Institution	Number	%
1	North Carolina State University	46	100
2	UCLA	21	95.5
3	University of Southern California	33	94.3
4	Virginia Polytechnic Institute and State University	25	89.3
5	Florida State University	31	83.8
6	University of Florida	33	80.5
7	Michigan State University	27	73.0
8	University of Texas at Austin	39	68.4
9	University of Northern Colorado	13	56.5
10	Nova University	63	47.4

Table 4.27

Range of In-region Employment as a Percent of Post-doctoral Employment (after three months) in the Same Region as the Doctoral-granting Institution

Rank	Institution	Number	%
1	North Carolina State University	46	95.8
2	University of Southern California	32	94.1
3	University of Florida	41	93.2
4	Florida State University	35	92.1
5	UCLA	22	91.7
6	Virginia Polytechnic Institute and State University	22	75.9
7	Michigan State University	24	64.9
8	University of Northern Colorado	15	62.5
9	University of Texas at Austin	31	55.4
10	Nova University	66	48.9

Table 4.28

Range of In-region Employment as a Percent of Current  
Employment in the Same Region as the Doctoral-granting  
Institution

Rank	Institution	Number	%
1	North Carolina State University	48	96.0
2	University of Southern California	37	94.9
3	University of Florida	41	91.1
4	UCLA	22	84.6
5	Florida State University	32	84.2
6	University of Northern Colorado	17	65.4
7	Virginia Polytechnic Institute and State University	19	63.3
8	University of Texas at Austin	34	58.6
9	Michigan State University	23	56.1
10	Nova University	67	47.5

beginning doctoral studies in the same region as the doctoral-granting institution. Table 4.27 shows employment three months after completing doctoral studies in the same region as the doctoral-granting institution. Table 4.28 shows current (1990) employment in the same region as the doctoral-granting institution. At the three designated periods of time, Nova University consistently shows the lowest percent of their graduates in region, while North Carolina State University has consistently the highest percent in region.

For employment three months prior to beginning doctoral studies, the percent of in-region employment ranges from 47.4% to 100%. Three months after doctoral study, the range is from 48.9% to 95.8%. Current (1990) employment in-region ranges from 47.5% to 96.0%.

**Employment Locations for  
Community College/Higher Education Doctoral Recipients  
by Doctoral-granting Institution**

Maps of employment locations for community college/higher education doctoral recipients employed in 1990 as two-year college administrators are shown in Figures 4.1 to 4.40. These maps show employment patterns for individual institutions that underlie the national aggregate patterns reported in the contingency tables.

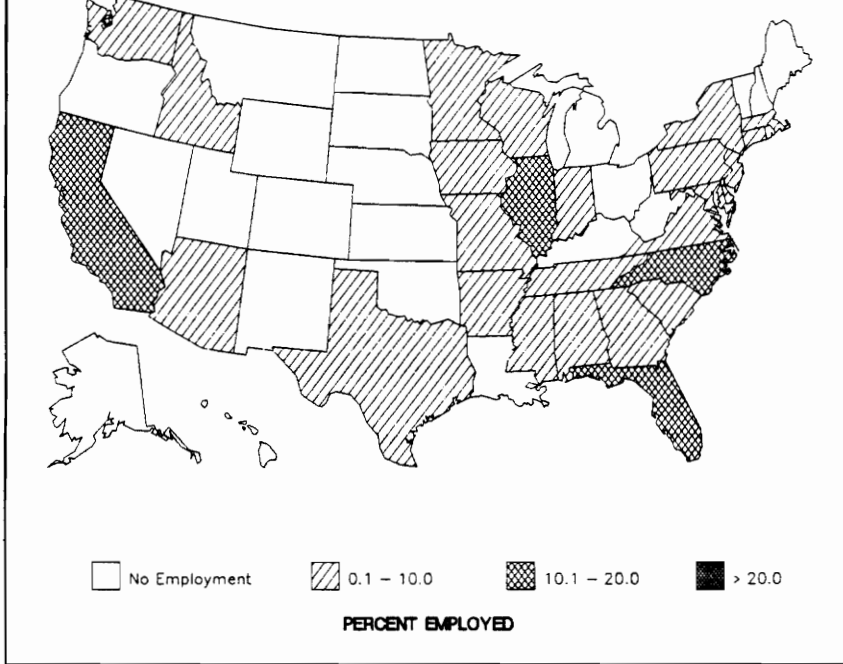
The maps were prepared for the ten institutions graduating the highest number of such doctorates. For each of the ten institutions, four maps are shown. The first map shows the location of the doctoral recipient's employment three months prior to beginning doctoral study. The second shows the location of the doctoral recipient's employment three months after completing doctoral study. The third map shows current (1990) employment location. Each of these three maps shows employment location at a specific time during the individual's career. The last map for each institution shows all the states in which community college/higher education doctoral recipients from that institution report working as a two-year college administrator after completing their doctorate and throughout their career to date. To be included in this cumulative listing of states, the doctorate's administrative employment in each state had to be at least six months long.

#### Nova University

Employment locations reported by Nova community college/higher education doctoral recipients are shown in Figures 4.1 to 4.4. Each of the four maps is discussed individually below.



**NOVA UNIVERSITY**  
**Community College/Higher Education Doctorates**  
**PRE-DOCTORAL EMPLOYMENT**



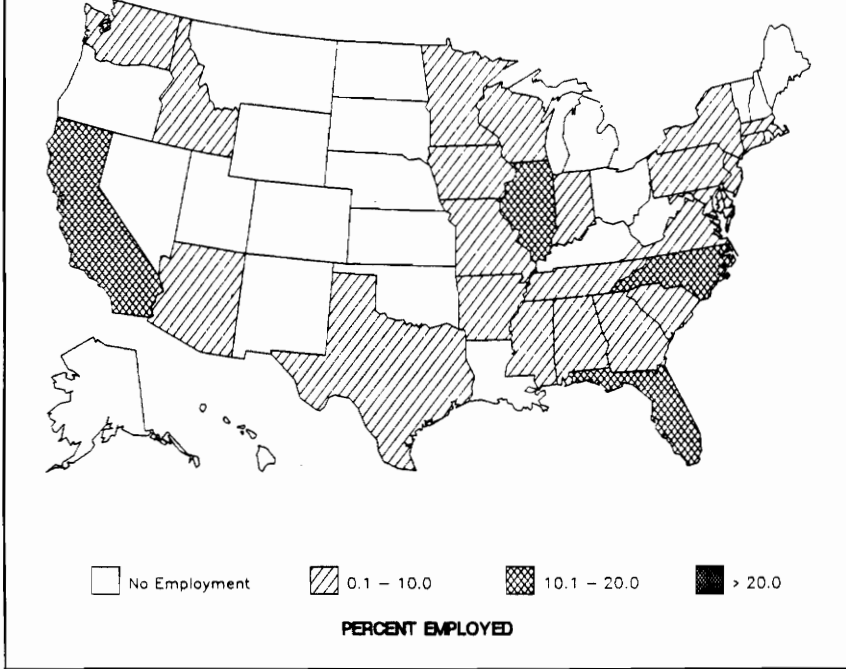
For employment outside the U.S. and Puerto Rico see table

State	Number	Percent	State	Number	Percent
ALABAMA	3	2.2%	MISSISSIPPI	1	0.7%
ARIZONA	2	1.5%	MISSOURI	1	0.7%
ARKANSAS	1	0.7%	NEW JERSEY	1	0.7%
CALIFORNIA	19	14.2%	NEW YORK	4	3.0%
CONNECTICUT	2	1.5%	N CAROLINA	18	13.4%
DELAWARE	2	1.5%	PENNSYLVANIA	7	5.2%
FLORIDA	20	14.9%	S CAROLINA	4	3.0%
GEORGIA	1	0.7%	TENNESSEE	1	0.7%
IDAHO	1	0.7%	TEXAS	7	5.2%
ILLINOIS	14	10.4%	VIRGINIA	2	1.5%
INDIANA	2	1.5%	WASHINGTON	2	1.5%
IOWA	3	2.2%	WISCONSIN	6	4.5%
MARYLAND	2	1.5%	PUERTO RICO	1	0.7%
MASSACHUSETTS	5	3.7%	OUTSIDE US	1	0.7%
MINNESOTA	1	0.7%			
			<b>Total</b>	<b>134</b>	<b>100.0%</b>

Figure 4.1

Nova University: Pre-doctoral Employment Location by State for Community College/Higher Education Doctorates

**NOVA UNIVERSITY**  
**Community College/Higher Education Doctorates**  
**POST-DOCTORAL EMPLOYMENT**



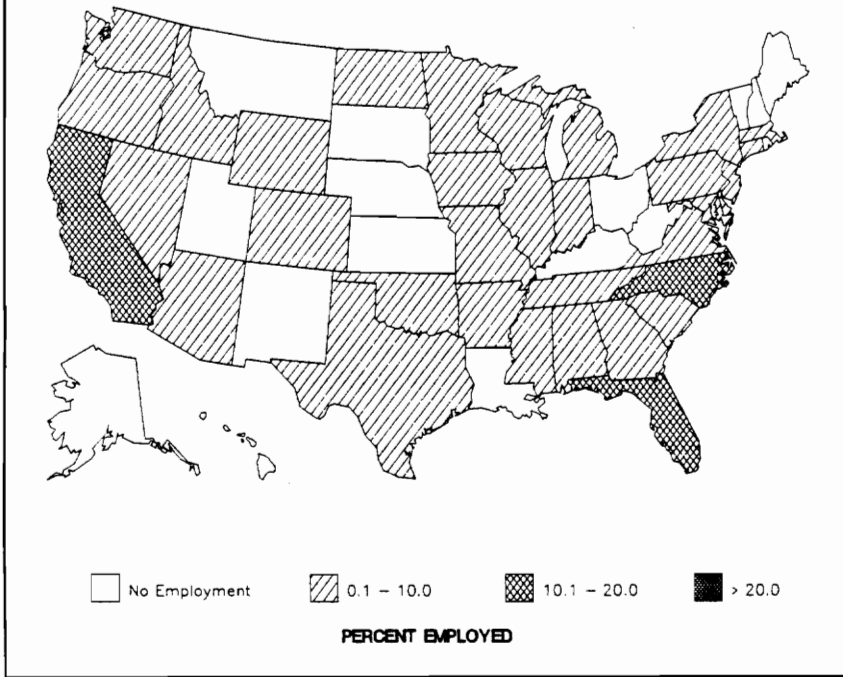
For employment in Puerto Rico see table

State	Number	Percent	State	Number	Percent
ALABAMA	3	2.2%	MISSISSIPPI	1	0.7%
ARIZONA	1	0.7%	MISSOURI	1	0.7%
ARKANSAS	1	0.7%	NEW JERSEY	1	0.7%
CALIFORNIA	19	14.1%	NEW YORK	4	3.0%
CONNECTICUT	2	1.5%	N CAROLINA	17	12.6%
DELAWARE	2	1.5%	PENNSYLVANIA	7	5.2%
FLORIDA	21	15.6%	S CAROLINA	6	4.4%
GEORGIA	1	0.7%	TENNESSEE	1	0.7%
IDAHO	1	0.7%	TEXAS	8	5.9%
ILLINOIS	14	10.4%	VIRGINIA	2	1.5%
INDIANA	2	1.5%	WASHINGTON	2	1.5%
IOWA	3	2.2%	WISCONSIN	6	4.4%
MARYLAND	2	1.5%	PUERTO RICO	1	0.7%
MASSACHUSETTS	5	3.7%			
MINNESOTA	1	0.7%	Total	135	100.0%

Figure 4.2

Nova University: Post-doctoral Employment Location (after three months) by State for Community College/Higher Education Doctorates

**NOVA UNIVERSITY**  
**Community College/Higher Education Doctorates**  
**CURRENT (1990) EMPLOYMENT**

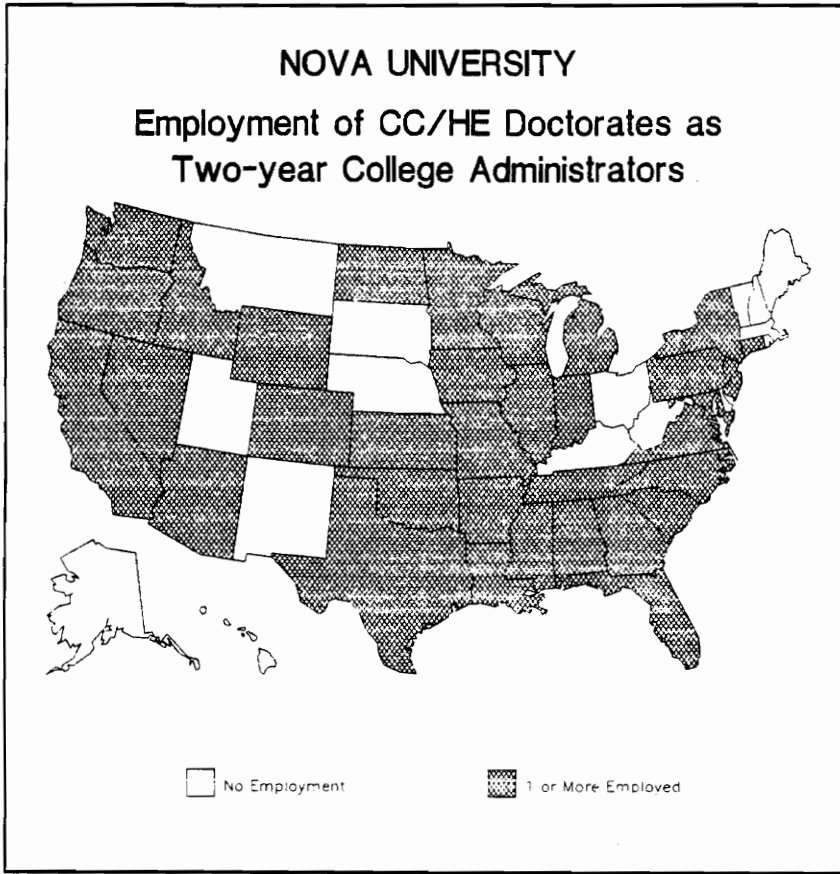


For employment in Puerto Rico see table

State	Number	Percent	State	Number	Percent
ALABAMA	3	2.1%	NEVADA	1	0.7%
ARIZONA	1	0.7%	NEW JERSEY	1	0.7%
ARKANSAS	1	0.7%	NEW YORK	5	3.5%
CALIFORNIA	22	15.6%	N CAROLINA	19	13.5%
COLORADO	1	0.7%	N DAKOTA	1	0.7%
CONNECTICUT	2	1.4%	OKLAHOMA	1	0.7%
DELAWARE	1	0.7%	OREGON	1	0.7%
FLORIDA	20	14.2%	PENNSYLVANIA	5	3.5%
GEORGIA	1	0.7%	S CAROLINA	5	3.5%
IDAHO	1	0.7%	TENNESSEE	1	0.7%
ILLINOIS	14	9.9%	TEXAS	8	5.7%
INDIANA	1	0.7%	VIRGINIA	4	2.8%
IOWA	2	1.4%	WASHINGTON	2	1.4%
MARYLAND	1	0.7%	WISCONSIN	6	4.3%
MASSACHUSETTS	4	2.8%	WYOMING	1	0.7%
MICHIGAN	1	0.7%	PUERTO RICO	1	0.7%
MINNESOTA	1	0.7%			
MISSISSIPPI	1	0.7%	Total	141	100.0%
MISSOURI	1	0.7%			

Figure 4.3

Nova University: Current Employment Location by State for Community College/Higher Education Doctorates



CC/HE stands for Community College/higher Education

#### State Listing

- |   |  |
|---|--|
| ALABAMA<br>ARIZONA<br>ARKANSAS<br>CALIFORNIA<br>COLORADO<br>CONNECTICUT<br>DELAWARE<br>FLORIDA<br>GEORGIA<br>IDAHO<br>ILLINOIS<br>INDIANA<br>IOWA<br>KANSAS<br>LOUISIANA<br>MARYLAND<br>MASSACHUSETTS<br>MICHIGAN | MINNESOTA<br>MISSISSIPPI<br>MISSOURI<br>NEVADA<br>NEW JERSEY<br>NEW YORK<br>N CAROLINA<br>N DAKOTA<br>OKLAHOMA<br>OREGON<br>PENNSYLVANIA<br>S CAROLINA<br>TENNESSEE<br>TEXAS<br>VIRGINIA<br>WASHINGTON<br>WISCONSIN<br>WYOMING |
|---|--|

Figure 4.4

Nova University Community College/Higher Education  
Doctorates: Cumulative Locations by State for Post-doctoral  
Employment as a Two-year College Administrator

### Pre-Doctoral Employment

Employment three months prior to beginning doctoral studies (Figure 4.1) was reported in 27 states representing all 4 of the US regions, plus Puerto Rico and outside the US. No state employed over 20% of the future Nova community college/higher education doctoral recipients, but 4 states (Florida, North Carolina, Illinois, and California) employed between 10 and 20%.

### Post-doctoral Employment

Employment three months after completing the doctorate (Figure 4.2) was reported in 27 states representing all 4 of the US regions, plus Puerto Rico. No states employed over 20% of the new Nova community college/higher education doctoral recipients, but 4 states (Florida, North Carolina, Illinois, and California) employed between 10 and 20%.

### Current (1990) Employment

At the time of the survey, employment was reported in 34 states representing all 4 of the US regions, plus Puerto Rico (Figure 4.3). No states employed over 20% of this university's community college/higher education doctoral recipients, but 3 states (Florida, North Carolina, and California) employed between 10 and 20%. Illinois, the

fourth mid-range state at the pre-doctoral and post-doctoral periods, at 9.9%, barely missed being included here.

#### Cumulative Post-doctoral Locations

All post-doctoral employment of at least six months duration as a two-year college administrator (Figure 4.4) included service in a total of 36 states. Community college/higher education doctoral recipients reported working in all 4 US regions.

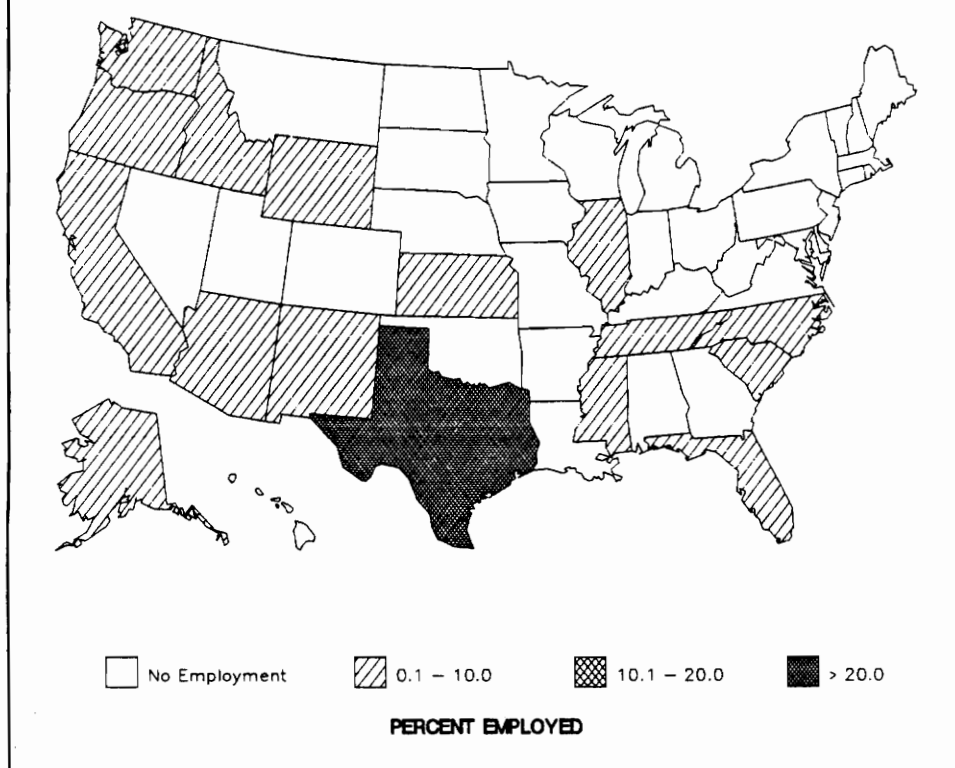
#### University of Texas at Austin

Employment locations reported by University of Texas at Austin community college/higher education doctoral recipients are shown in Figures 4.5 to 4.8. Each of the four maps is discussed individually below.

#### Pre-Doctoral Employment

Employment three months prior to beginning doctoral studies (Figure 4.5) was reported in 16 states representing 3 of the 4 US regions. No employment was reported in the North region and only 3.5% of the doctoral recipients reported employment in the Midwest. One state, Texas, employed over 20% of the future University of Texas at Austin community college/higher education doctoral recipients, but no states employed between 10 and 20%.

**UNIVERSITY OF TEXAS AT AUSTIN**  
**Community College/Higher Education Doctorates**  
**PRE-DOCTORAL EMPLOYMENT**



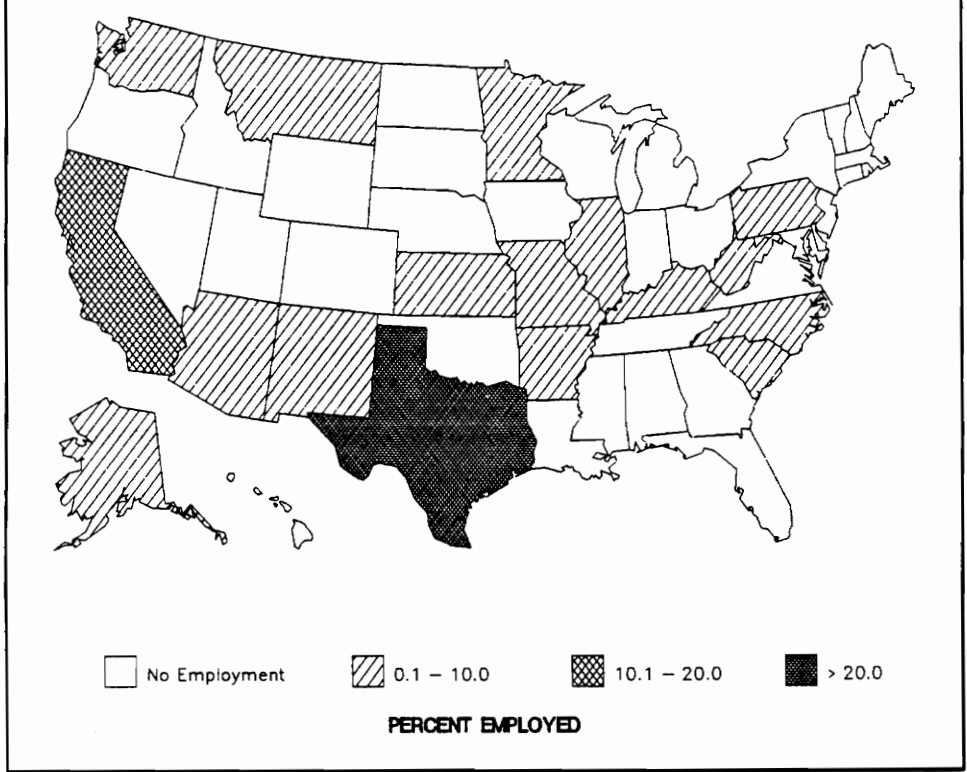
State	Number	Percent
ALASKA	1	1.8%
ARIZONA	1	1.8%
CALIFORNIA	4	7.0%
FLORIDA	2	3.5%
IDAHO	1	1.8%
ILLINOIS	1	1.8%
KANSAS	1	1.8%
MISSISSIPPI	1	1.8%
NEW MEXICO	2	3.5%

State	Number	Percent
N CAROLINA	2	3.5%
OREGON	2	3.5%
S CAROLINA	3	5.3%
TENNESSEE	1	1.8%
TEXAS	30	52.6%
WASHINGTON	4	7.0%
WYOMING	1	1.8%
<b>Total</b>	<b>57</b>	<b>100.0%</b>

Figure 4.5

University of Texas at Austin: Pre-doctoral Employment Location by State for Community College/Higher Education Doctorates

**UNIVERSITY OF TEXAS AT AUSTIN**  
**Community College/Higher Education Doctorates**  
**POST-DOCTORAL EMPLOYMENT**



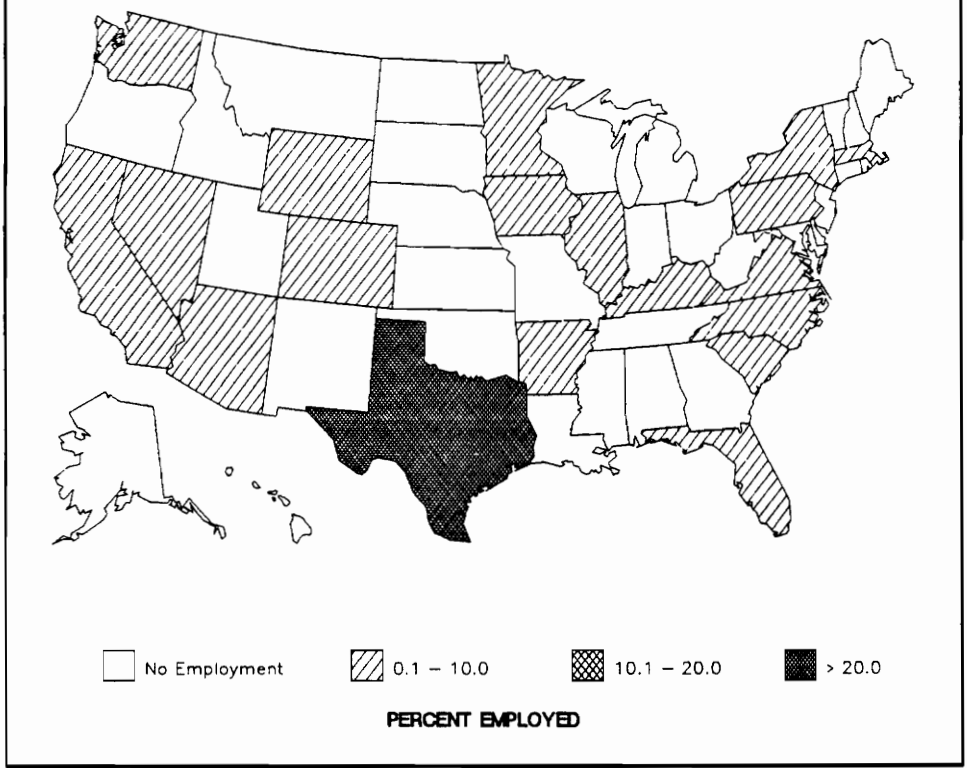
State	Number	Percent	State	Number	Percent
ALASKA	1	1.8%	NEW MEXICO	2	3.6%
ARIZONA	1	1.8%	N CAROLINA	1	1.8%
ARKANSAS	1	1.8%	PENNSYLVANIA	1	1.8%
CALIFORNIA	6	10.7%	S CAROLINA	2	3.6%
ILLINOIS	3	5.4%	TEXAS	25	44.6%
KANSAS	2	3.6%	WASHINGTON	5	8.9%
KENTUCKY	1	1.8%	W VIRGINIA	1	1.8%
MINNESOTA	1	1.8%			
MISSOURI	2	3.6%	<b>Total</b>	<b>56</b>	<b>100.0%</b>
MONTANA	1	1.8%			

Figure 4.6

University of Texas at Austin: Post-doctoral Employment Location (after three months) by State for Community College/Higher Education Doctorates



**UNIVERSITY OF TEXAS AT AUSTIN**  
**Community College/Higher Education Doctorates**  
**CURRENT (1990) EMPLOYMENT**



State	Number	Percent	State	Number	Percent
ARIZONA	2	3.4%	NEW YORK	2	3.4%
ARKANSAS	1	1.7%	N CAROLINA	2	3.4%
CALIFORNIA	5	8.6%	PENNSYLVANIA	1	1.7%
COLORADO	1	1.7%	S CAROLINA	3	5.2%
FLORIDA	1	1.7%	TEXAS	23	39.7%
ILLINOIS	4	6.9%	VIRGINIA	1	1.7%
IOWA	1	1.7%	WASHINGTON	3	5.2%
KENTUCKY	3	5.2%	WYOMING	2	3.4%
MASSACHUSETTS	1	1.7%			
MINNESOTA	1	1.7%	Total	58	100.0%
NEVADA	1	1.7%			

Figure 4.7

University of Texas at Austin: Current Employment Location by State for Community College/Higher Education Doctorates

**UNIVERSITY OF TEXAS AT AUSTIN**  
**Employment of CC/HE Doctorates as**  
**Two-year College Administrators**



CC/HE stands for Community College/Higher Education

**State Listing**

ALASKA  
 ARIZONA  
 ARKANSAS  
 CALIFORNIA  
 COLORADO  
 FLORIDA  
 ILLINOIS  
 IOWA  
 KANSAS  
 KENTUCKY  
 MASSACHUSETTS  
 MINNESOTA  
 MISSOURI

NEVADA  
 NEW MEXICO  
 NEW YORK  
 N CAROLINA  
 OHIO  
 PENNSYLVANIA  
 S CAROLINA  
 TENNESSEE  
 TEXAS  
 VIRGINIA  
 WASHINGTON  
 W VIRGINIA  
 WYOMING

**Figure 4.8**

**University of Texas at Austin Community College/Higher Education Doctorates: Cumulative Locations by State for Post-doctoral Employment as a Two-year College Administrator**

### Post-doctoral Employment

Employment three months after completing the doctorate (Figure 4.6) was reported in 17 states representing all 4 US regions. One state, Texas, employed over 20% of the new University of Texas at Austin community college/higher education doctoral recipients, and 1 state, California, employed between 10 and 20%.

### Current (1990) Employment

At the time of the survey, employment was reported in 19 states representing all 4 of the US regions (Figure 4.7). One state, Texas, employed over 20% of this university's community college/higher education doctoral recipients, but no states employed between 10 and 20%.

### Cumulative Post-doctoral Locations

All post-doctoral employment of at least six months duration as a two-year college administrator (Figure 4.8) included service in a total of 26 states. Community college/higher education doctoral recipients reported working in all 4 US regions.

### North Carolina State University

Employment locations reported by North Carolina State community college/higher education doctoral recipients are

shown in Figures 4.9 to 4.12. Each of the four maps is discussed individually below.

#### Pre-Doctoral Employment

Employment three months prior to beginning doctoral studies (Figure 4.9) was reported in 3 states representing only 1 of the 4 US regions (the South), plus outside the US. One state, North Carolina, employed over 20% of the future North Carolina State community college/higher education doctoral recipients, but no states employed between 10 and 20%.

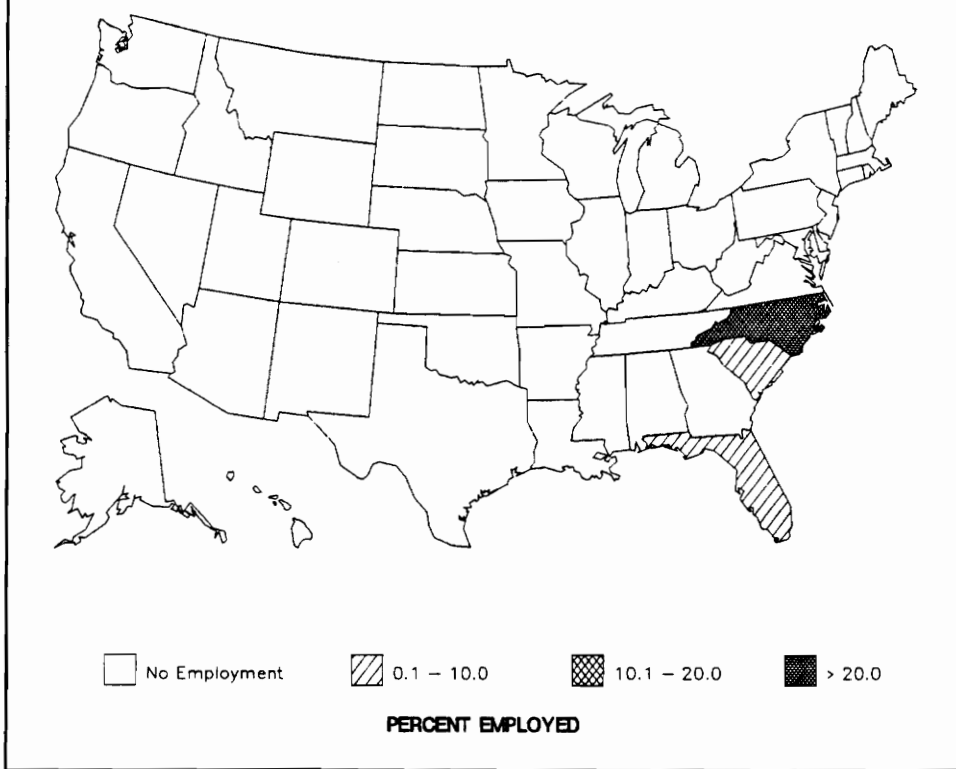
#### Post-doctoral Employment

Employment three months after completing the doctorate (Figure 4.10) was reported in 5 states representing 3 of the 4 US regions. No employment was reported in the Midwest. One state, North Carolina, employed over 20% of the new North Carolina State community college/higher education doctoral recipients, but no states employed between 10 and 20%.

#### Current (1990) Employment

At the time of the survey, employment was reported in 7 states representing 3 of the 4 US regions. No employment was reported in the West and only 2% of the doctorates

**NORTH CAROLINA STATE UNIVERSITY  
Community College/Higher Education Doctorates  
PRE-DOCTORAL EMPLOYMENT**

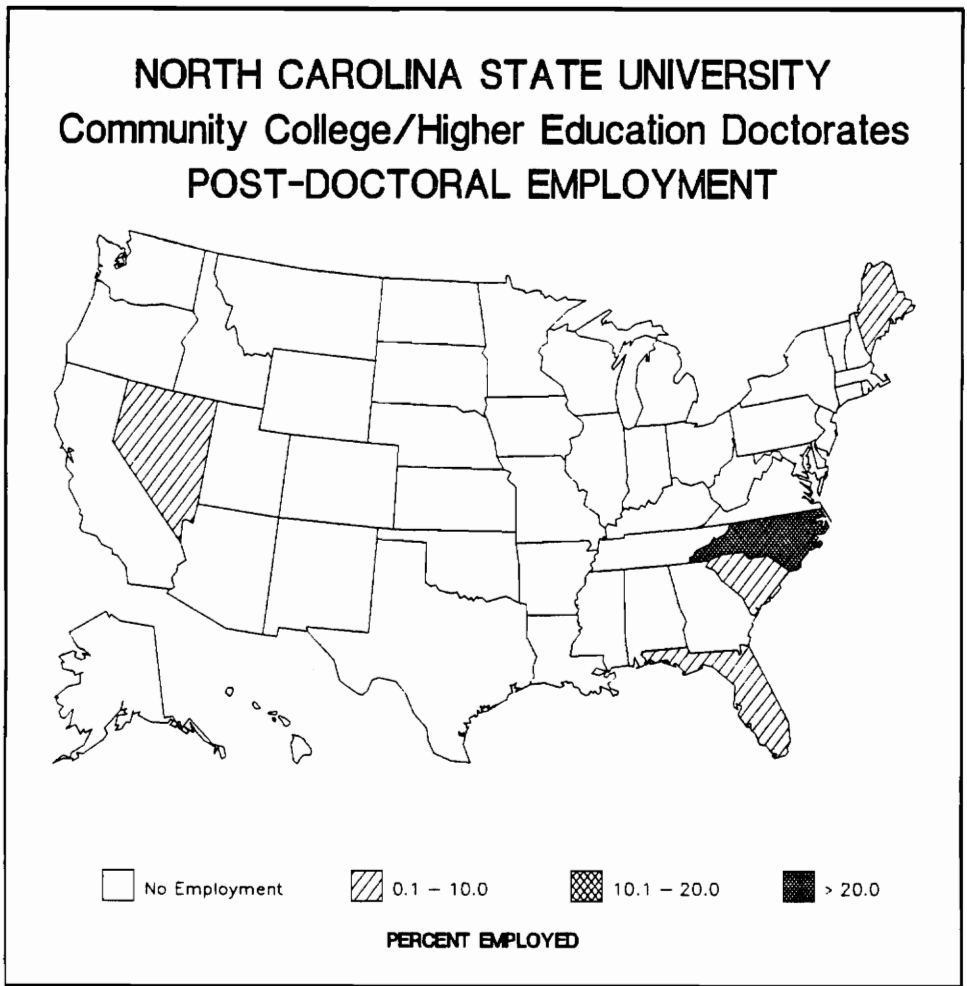


For employment outside the U.S. see table

State	Number	Percent
FLORIDA	2	4.3%
N CAROLINA	43	91.5%
S CAROLINA	1	2.1%
OUTSIDE US	1	2.1%
<b>Total</b>	<b>47</b>	<b>100.0%</b>

Figure 4.9

North Carolina State University: Pre-doctoral Employment Location by State for Community College/Higher Education Doctorates

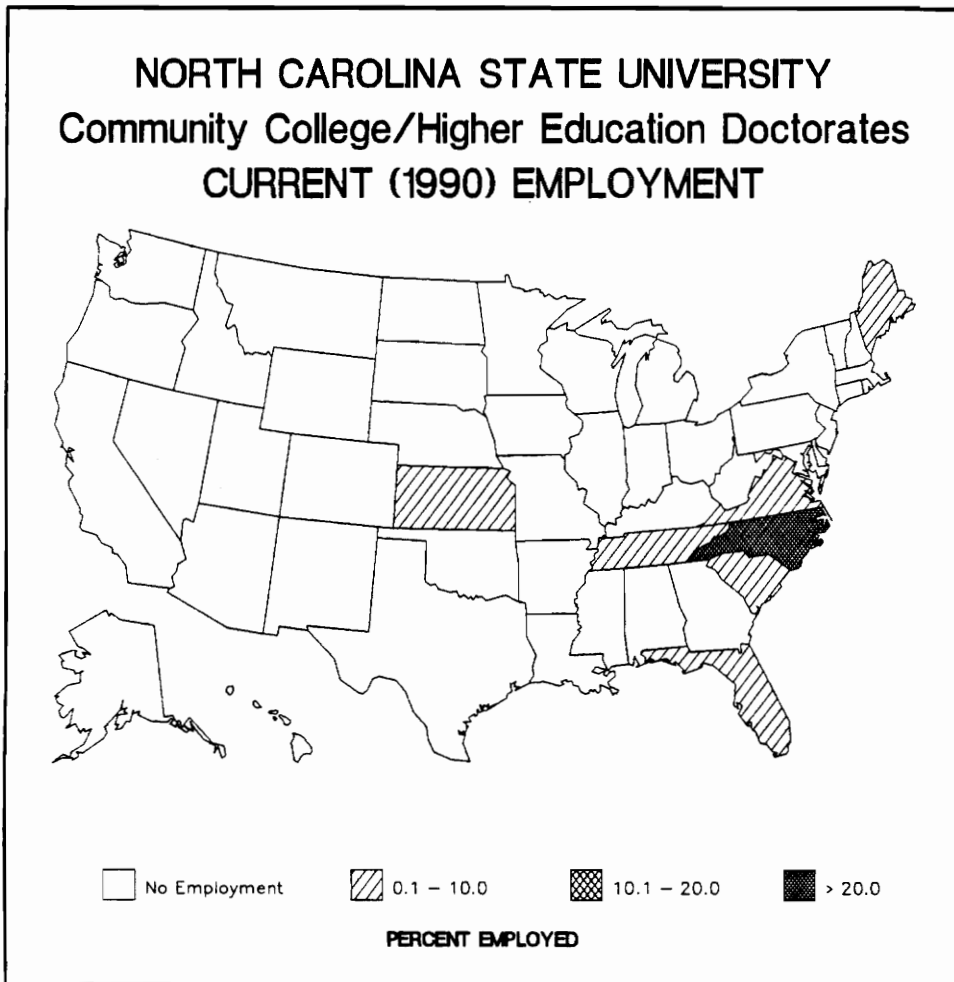


State	Number	Percent
FLORIDA	1	2.1%
MAINE	1	2.1%
NEVADA	1	2.1%
N CAROLINA	44	91.7%
S CAROLINA	1	2.1%
<b>Total</b>	<b>48</b>	<b>100.0%</b>

Figure 4.10

North Carolina State University: Post-doctoral Employment Location (after three months) by State for Community College/Higher Education Doctorates

**NORTH CAROLINA STATE UNIVERSITY  
Community College/Higher Education Doctorates  
CURRENT (1990) EMPLOYMENT**



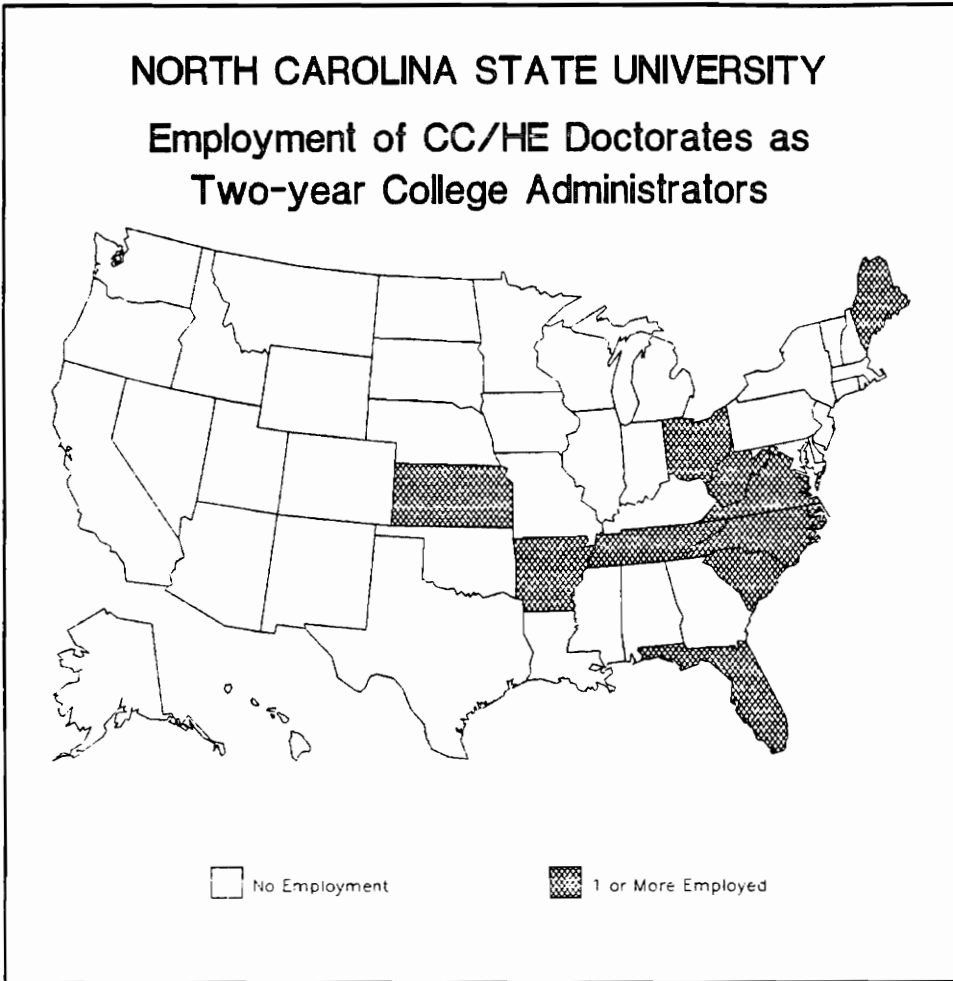
State	Number	Percent
FLORIDA	2	4.0%
KANSAS	1	2.0%
MAINE	1	2.0%
N CAROLINA	42	84.0%

State	Number	Percent
S CAROLINA	1	2.0%
TENNESSEE	2	4.0%
VIRGINIA	1	2.0%
Total	50	100.0%

Figure 4.11

North Carolina State University: Current Employment Location by State for Community College/Higher Education Doctorates

**NORTH CAROLINA STATE UNIVERSITY  
Employment of CC/HE Doctorates as  
Two-year College Administrators**



CC/HE stands for Community College/Higher Education

**State Listing**

ARKANSAS  
 FLORIDA  
 KANSAS  
 MAINE  
 N CAROLINA

OHIO  
 S CAROLINA  
 TENNESSEE  
 VIRGINIA  
 W VIRGINIA

**Figure 4.12**

**North Carolina State University Community College/Higher Education Doctorates: Cumulative Locations by State for Post-doctoral Employment as a Two-year College Administrator**



worked in the North and 2% in the Midwest (Figure 4.11). One state, North Carolina, employed over 20% of this university's community college/higher education doctoral recipients, but no states between 10 and 20%.

#### Cumulative Post-doctoral Locations

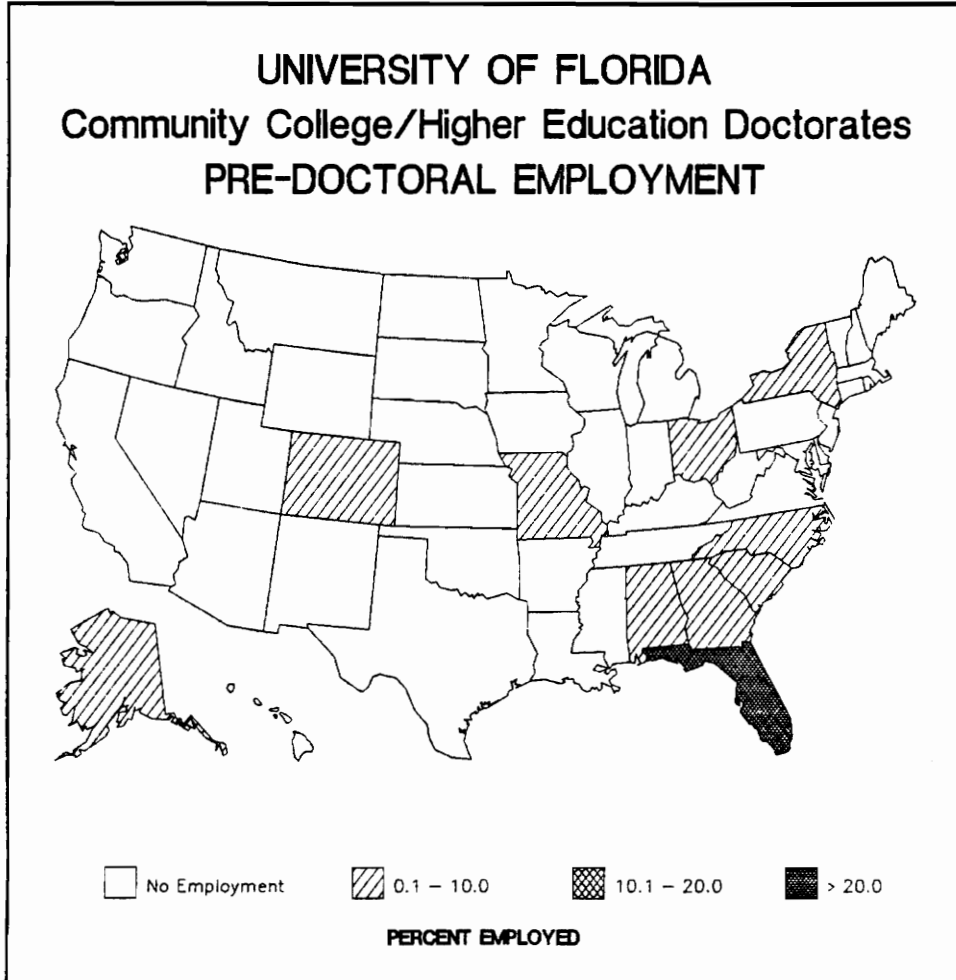
All post-doctoral employment of at least six months duration as a two-year college administrator (Figure 4.12) included service in a total of 10 states. Community college/higher education doctoral recipients reported working in 3 of the 4 US regions (excluding the West).

#### University of Florida

Employment locations reported by University of Florida community college/higher education doctoral recipients are shown in Figures 4.13 to 4.16. Each of the four maps is discussed individually below.

#### Pre-Doctoral Employment

Employment three months prior to beginning doctoral studies (Figure 4.13) was reported in 10 states representing all 4 US regions. One state, Florida, employed over 20% of the future University of Florida community college/higher education doctoral recipients, but no states employed between 10 and 20%.

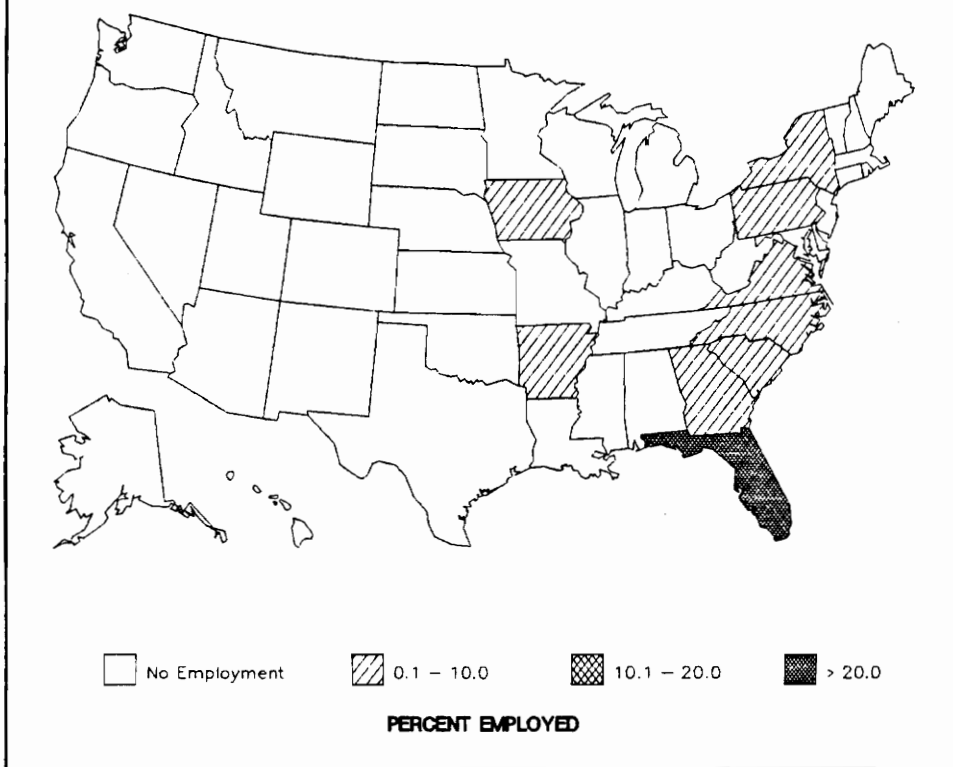


State	Number	Percent	State	Number	Percent
ALABAMA	2	4.9%	NEW YORK	3	7.3%
ALASKA	1	2.4%	N CAROLINA	1	2.4%
COLORADO	1	2.4%	OHIO	1	2.4%
FLORIDA	28	68.3%	S CAROLINA	1	2.4%
GEORGIA	1	2.4%			
MISSOURI	2	4.9%	Total	41	100.0%

Figure 4.13

University of Florida: Pre-doctoral Employment Location by State for Community College/Higher Education Doctorates

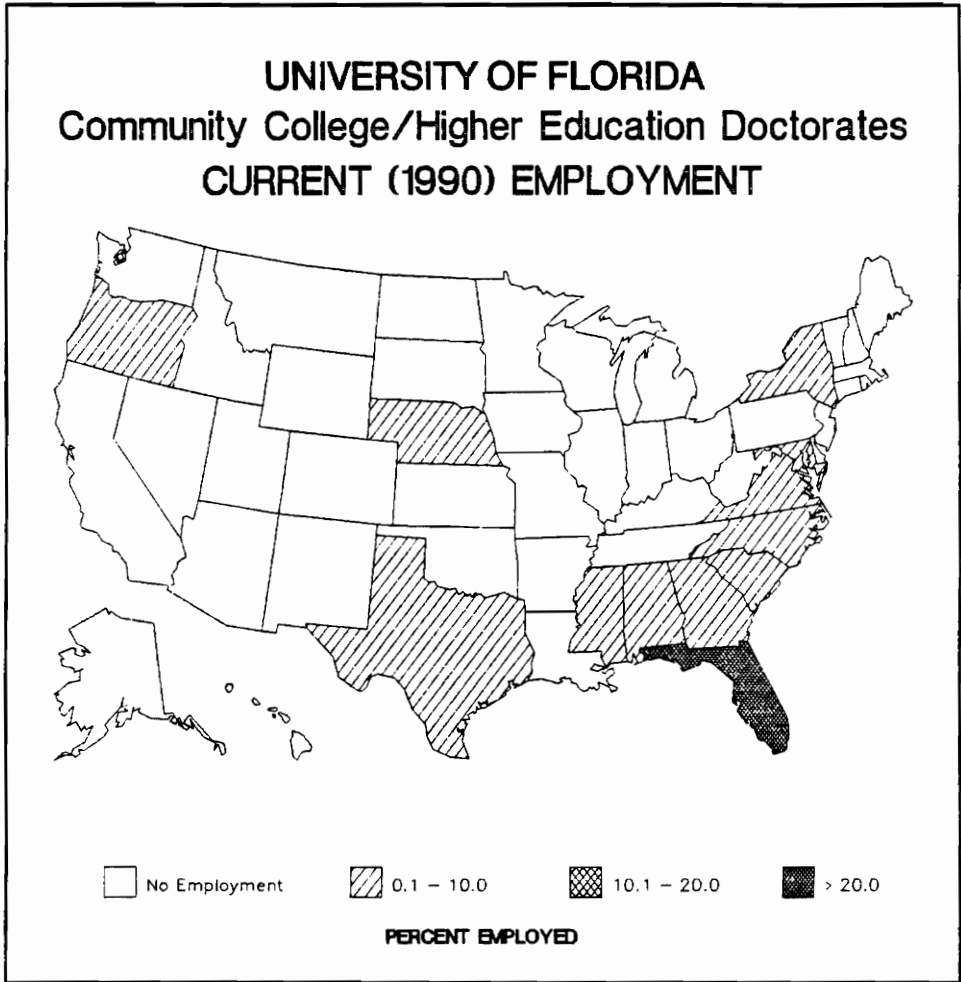
**UNIVERSITY OF FLORIDA**  
**Community College/Higher Education Doctorates**  
**POST-DOCTORAL EMPLOYMENT**



State	Number	Percent	State	Number	Percent
ARKANSAS	1	2.3%	PENNSYLVANIA	1	2.3%
FLORIDA	31	70.5%	S CAROLINA	1	2.3%
GEORGIA	3	6.8%	VIRGINIA	2	4.5%
IOWA	1	2.3%			
NEW YORK	1	2.3%	<b>Total</b>	<b>44</b>	<b>100.0%</b>
N CAROLINA	3	6.8%			

Figure 4.14

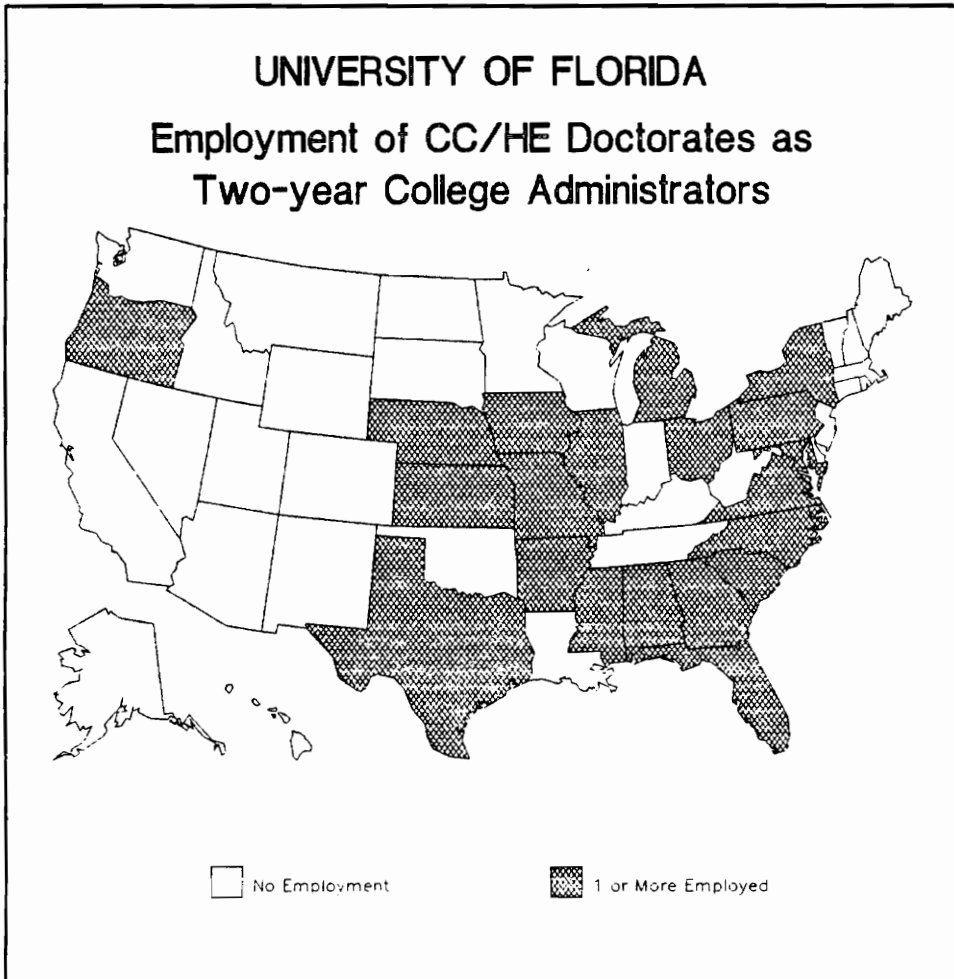
University of Florida: Post-doctoral Employment Location (after three months) by State for Community College/Higher Education Doctorates



State	Number	Percent	State	Number	Percent
ALABAMA	1	2.2%	N CAROLINA	1	2.2%
FLORIDA	27	60.0%	OREGON	1	2.2%
GEORGIA	3	6.7%	S CAROLINA	1	2.2%
MARYLAND	1	2.2%	TEXAS	2	4.4%
MISSISSIPPI	1	2.2%	VIRGINIA	4	8.9%
NEBRASKA	1	2.2%			
NEW YORK	2	4.4%	<b>Total</b>	<b>45</b>	<b>100.0%</b>

Figure 4.15

University of Florida: Current Employment Location by State for Community College/Higher Education Doctorates



CC/HE stands for Community College/Higher Education

#### State Listing

ALABAMA  
 ARKANSAS  
 FLORIDA  
 GEORGIA  
 ILLINOIS  
 IOWA  
 KANSAS  
 MARYLAND  
 MICHIGAN  
 MISSISSIPPI

MISSOURI  
 NEBRASKA  
 NEW YORK  
 N CAROLINA  
 OHIO  
 OREGON  
 PENNSYLVANIA  
 S CAROLINA  
 TEXAS  
 VIRGINIA

Figure 4.16

University of Florida Community College/Higher Education  
 Doctorates: Cumulative Locations by State for Post-doctoral  
 Employment as a Two-year College Administrator

### Post-doctoral Employment

Employment three months after completing the doctorate (Figure 4.14) was reported in 9 states representing 3 of the 4 US regions. No employment was reported in the West. One state, Florida, employed over 20% of the new University of Florida community college/higher education doctoral recipients, but no states employed between 10 and 20%.

### Current (1990) Employment

At the time of the survey, employment was reported in 12 states representing all 4 US regions, although less than 5% of the employment reported was in the West and Midwest (Figure 4.15). One state, Florida, employed over 20% of this university's community college/higher education doctoral recipients, but no states employed between 10 and 20%.

### Cumulative Post-doctoral Locations

All post-doctoral employment of at least six months duration as a two-year college administrator (Figure 4.16) included service in a total of 20 states. Community college/higher education doctoral recipients reported working in all 4 US regions.

## Michigan State University

Employment locations reported by Michigan State community college/higher education doctoral recipients are shown in Figures 4.17 to 4.20. Each of the four maps is discussed individually below.

### Pre-Doctoral Employment

Employment three months prior to beginning doctoral studies (Figure 4.17) was reported in 12 states representing all 4 US regions, plus outside the US. One state, Michigan, employed over 20% of the future Michigan State community college/higher education doctoral recipients, but no states employed between 10 and 20%.

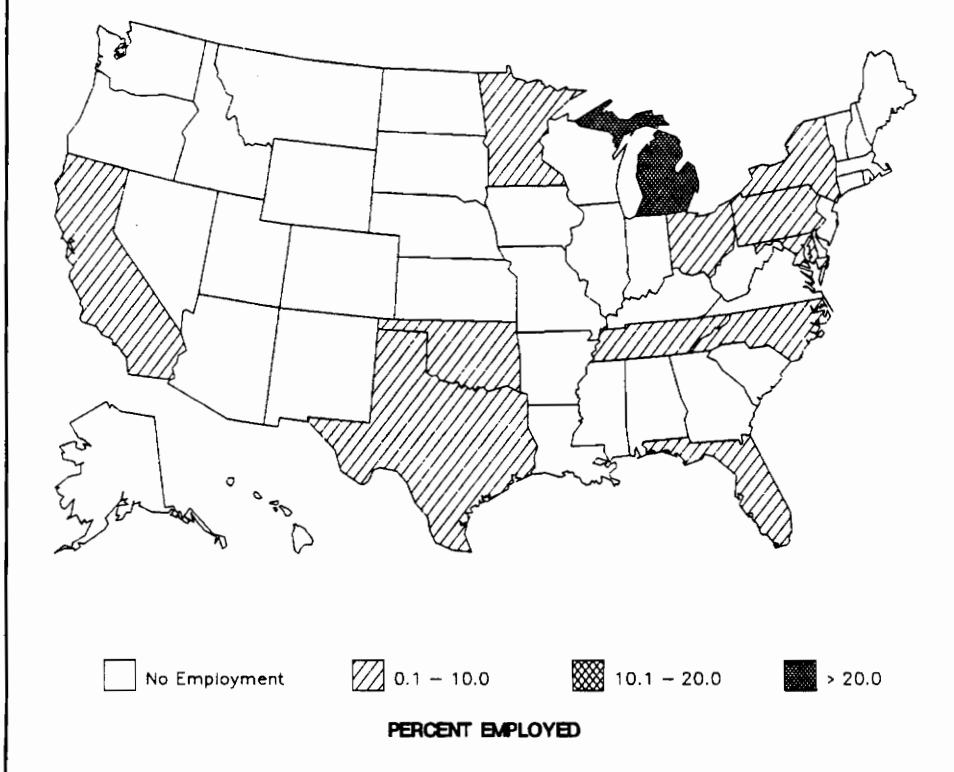
### Post-doctoral Employment

Employment three months after completing the doctorate (Figure 4.18) was reported in 11 states representing all 4 US regions, plus the District of Columbia and outside the US. One state, Michigan, employed over 20% of the new Michigan State community college/higher education doctoral recipients, but no states employed between 10 and 20%.

### Current (1990) Employment

At the time of the survey, employment was reported in 13 states representing all 4 US regions (Figure 4.19). One

**MICHIGAN STATE UNIVERSITY**  
**Community College/Higher Education Doctorates**  
**PRE-DOCTORAL EMPLOYMENT**



For employment outside the U.S. see table

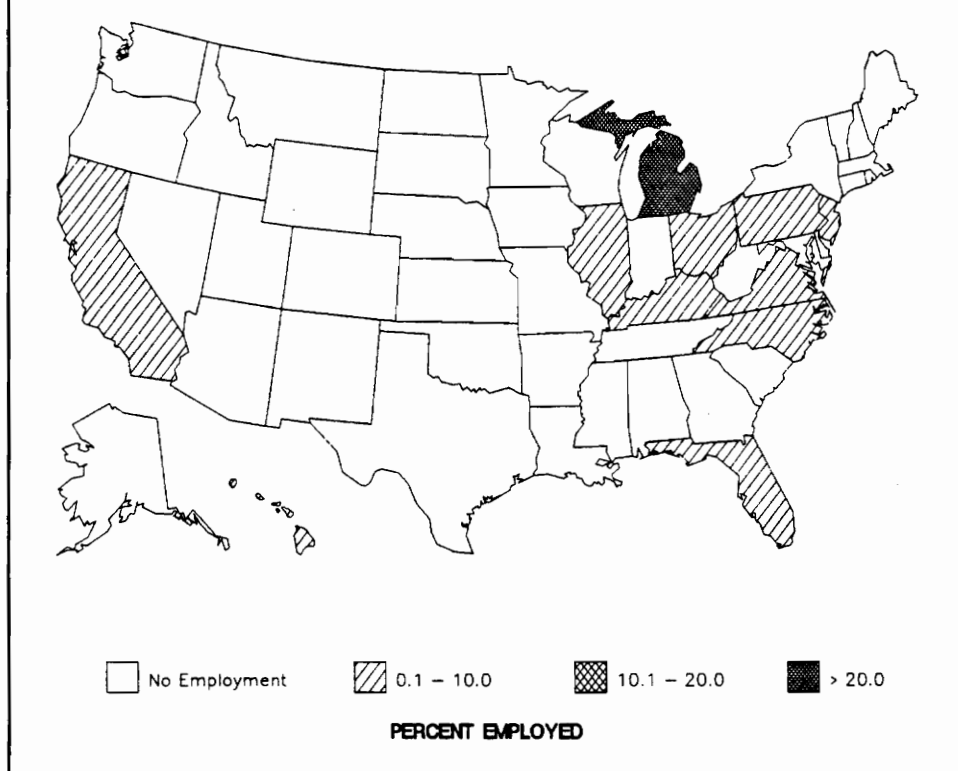
State	Number	Percent	State	Number	Percent
CALIFORNIA	1	2.6%	OKLAHOMA	1	2.6%
FLORIDA	1	2.6%	PENNSYLVANIA	1	2.6%
MARYLAND	1	2.6%	TENNESSEE	1	2.6%
MICHIGAN	25	65.8%	TEXAS	1	2.6%
MINNESOTA	1	2.6%	OUTSIDE US	1	2.6%
NEW YORK	2	5.3%			
N CAROLINA	1	2.6%	Total	38	100.0%
OHIO	1	2.6%			

Figure 4.17

Michigan State University: Pre-doctoral Employment Location by State for Community College/Higher Education Doctorates



**MICHIGAN STATE UNIVERSITY  
Community College/Higher Education Doctorates  
POST-DOCTORAL EMPLOYMENT**



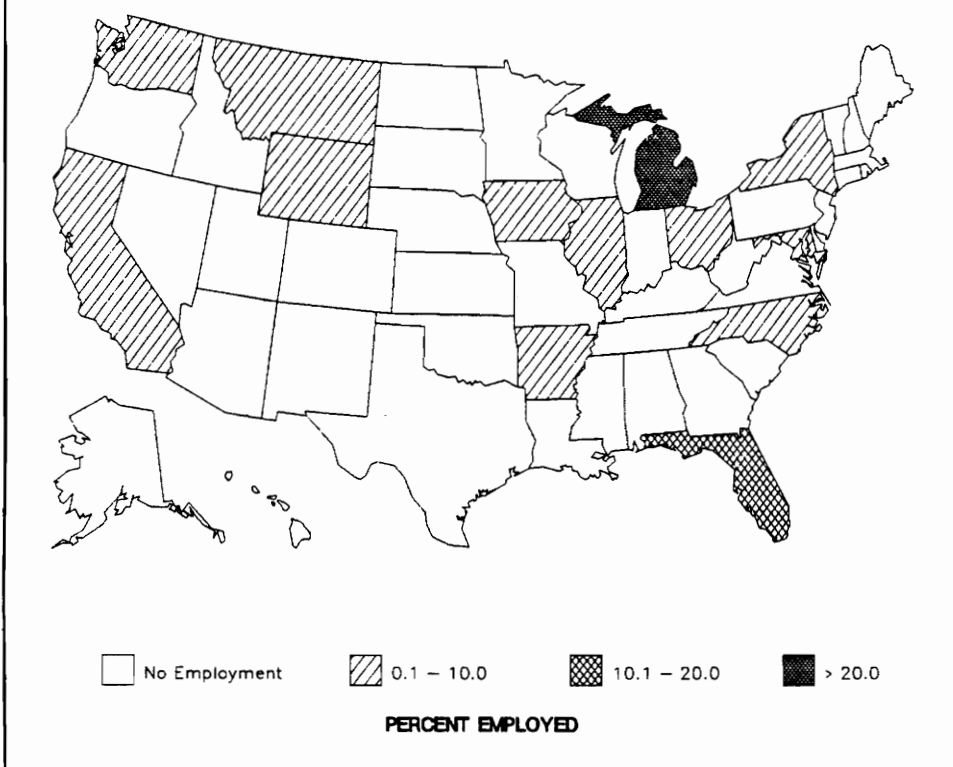
For employment outside the U.S. see table

State	Number	Percent	State	Number	Percent
CALIFORNIA	2	5.3%	N CAROLINA	1	2.6%
D C	1	2.6%	OHIO	3	7.9%
FLORIDA	3	7.9%	PENNSYLVANIA	2	5.3%
HAWAII	1	2.6%	VIRGINIA	1	2.6%
ILLINOIS	2	5.3%	OUTSIDE US	1	2.6%
KENTUCKY	1	2.6%			
MICHIGAN	19	50.0%	Total	38	100.0%
NEW JERSEY	1	2.6%			

Figure 4.18

Michigan State University: Post-doctoral Employment Location (after three months) by State for Community College/Higher Education Doctorates

**MICHIGAN STATE UNIVERSITY**  
**Community College/Higher Education Doctorates**  
**CURRENT (1990) EMPLOYMENT**

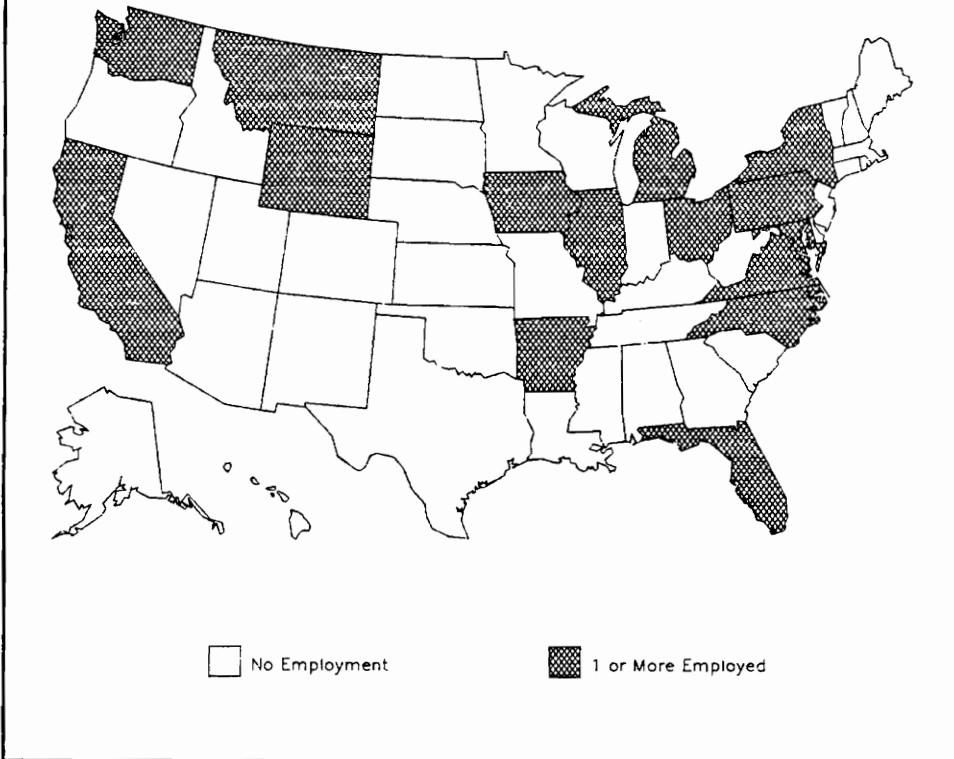


State	Number	Percent	State	Number	Percent
ARKANSAS	1	2.4%	NEW YORK	3	7.3%
CALIFORNIA	3	7.3%	N CAROLINA	2	4.9%
FLORIDA	5	12.2%	OHIO	4	9.8%
ILLINOIS	3	7.3%	WASHINGTON	1	2.4%
IOWA	1	2.4%	WYOMING	1	2.4%
MARYLAND	1	2.4%	Total	41	100.0%
MICHIGAN	15	36.6%			
MONTANA	1	2.4%			

Figure 4.19

Michigan State University: Current Employment Location by State for Community College/Higher Education Doctorates

**MICHIGAN STATE UNIVERSITY**  
**Employment of CC/HE Doctorates as**  
**Two-year College Administrators**



CC/HE stands for Community College/Higher Education  
 For employment outside the U.S. see table

**State Listing**

ARKANSAS  
 CALIFORNIA  
 D C  
 FLORIDA  
 ILLINOIS  
 IOWA  
 MARYLAND  
 MICHIGAN  
 MONTANA

NEW YORK  
 N CAROLINA  
 OHIO  
 PENNSYLVANIA  
 VIRGINIA  
 WASHINGTON  
 WYOMING  
 OUTSIDE US

Figure 4.20

Michigan State University Community College/Higher Education Doctorates: Cumulative Locations by State for Post-doctoral Employment as a Two-year College Administrator

state, Michigan, employed over 20% of this university's community college/higher education doctoral recipients, and 1 state, Florida, employed between 10 and 20%.

### Cumulative Post-doctoral Locations

All post-doctoral employment of at least six months duration as a two-year college administrator (Figure 4.20) included service in a total of 15 states, the District of Columbia, and outside the US. Community college/higher education doctoral recipients reported working in all 4 US regions.

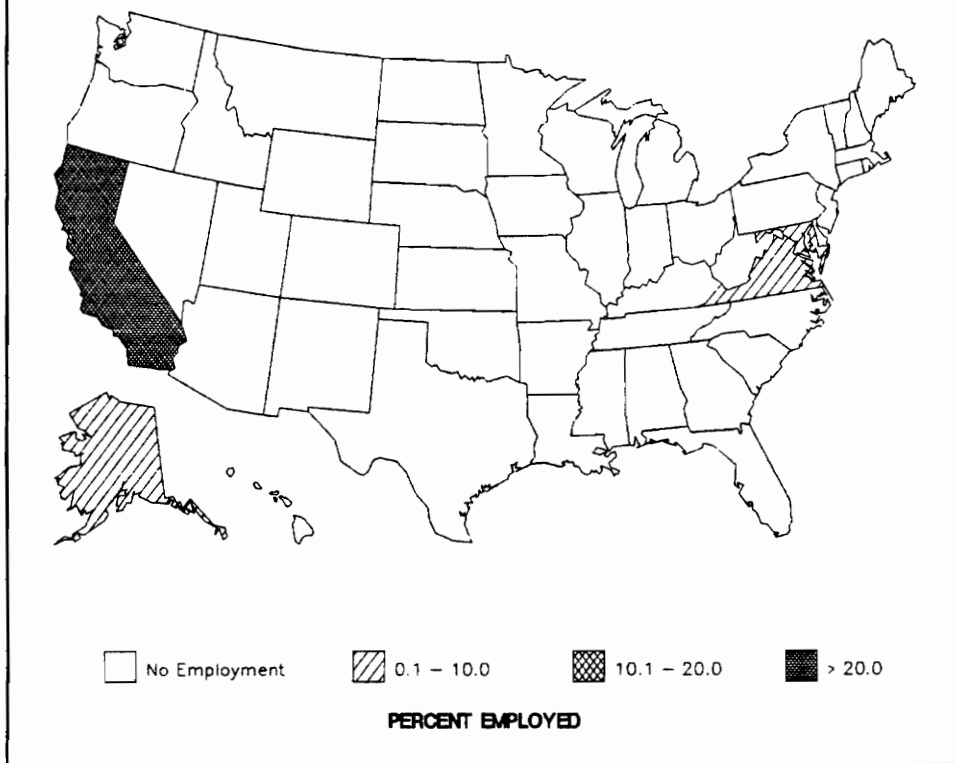
### University of Southern California

Employment locations reported by University of Southern California community college/higher education doctoral recipients are shown in Figures 4.21 to 4.24. Each of the four maps is discussed individually below.

### Pre-Doctoral Employment

Employment three months prior to beginning doctoral studies (Figure 4.21) was reported in 4 states representing 2 of the 4 US regions (the West and South), plus outside the US. Less than 6% were employed outside the West. One state, California, employed over 20% of the future University of Southern California community college/higher

**UNIVERSITY OF SOUTHERN CALIFORNIA  
Community College/Higher Education Doctorates  
PRE-DOCTORAL EMPLOYMENT**



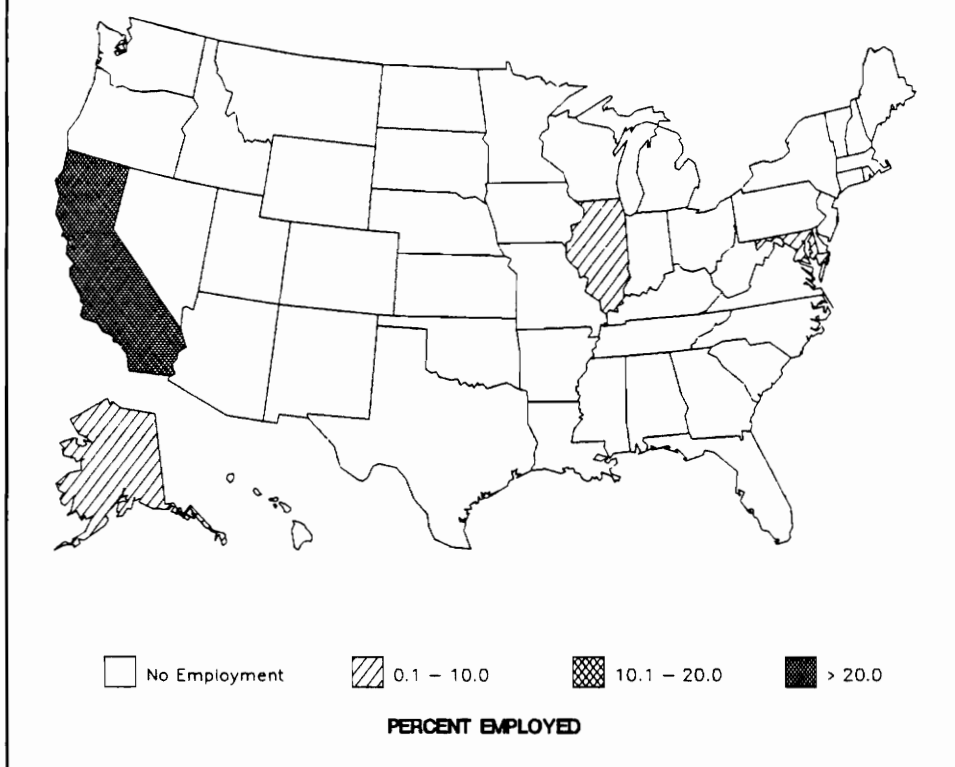
For employment outside the U.S. see table

State	Number	Percent
ALASKA	1	2.8%
CALIFORNIA	32	88.9%
MARYLAND	1	2.8%
VIRGINIA	1	2.8%
OUTSIDE US	1	2.8%
<b>Total</b>	<b>36</b>	<b>100.0%</b>

Figure 4.21

University of Southern California: Pre-doctoral Employment Location by State for Community College/Higher Education Doctorates

**UNIVERSITY OF SOUTHERN CALIFORNIA  
Community College/Higher Education Doctorates  
POST-DOCTORAL EMPLOYMENT**



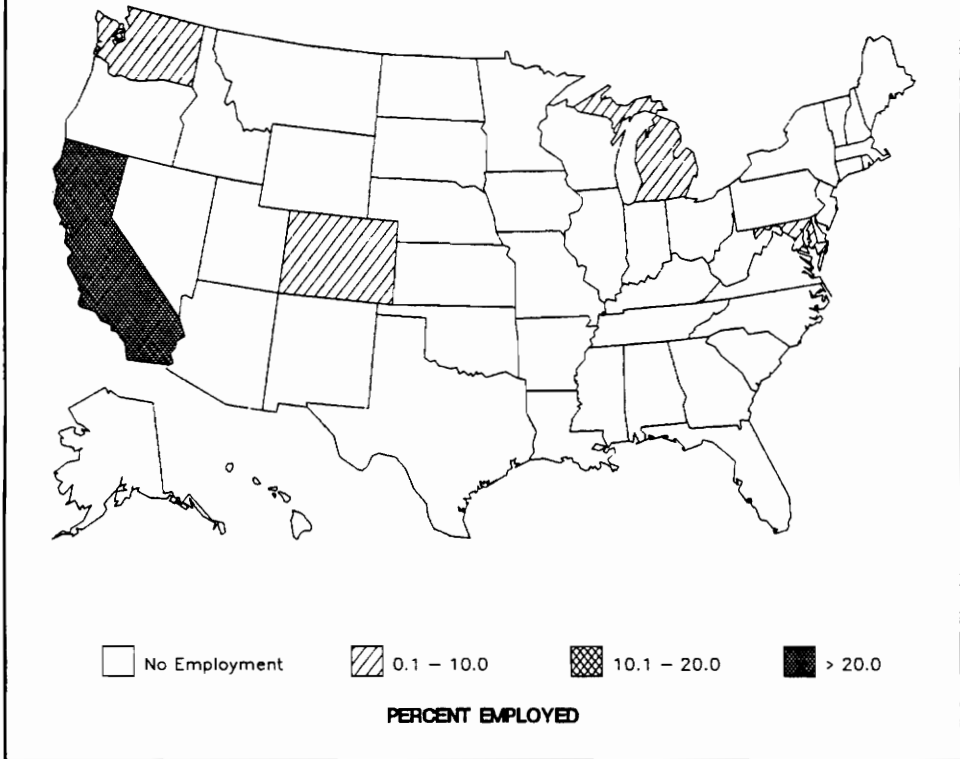
For employment outside the U.S. see table

State	Number	Percent
ALASKA	1	2.9%
CALIFORNIA	31	88.6%
ILLINOIS	1	2.9%
MARYLAND	1	2.9%
OUTSIDE US	1	2.9%
<b>Total</b>	<b>35</b>	<b>100.0%</b>

Figure 4.22

University of Southern California: Post-doctoral Employment Location (after three months) by State for Community College/Higher Education Doctorates

**UNIVERSITY OF SOUTHERN CALIFORNIA  
Community College/Higher Education Doctorates  
CURRENT (1990) EMPLOYMENT**

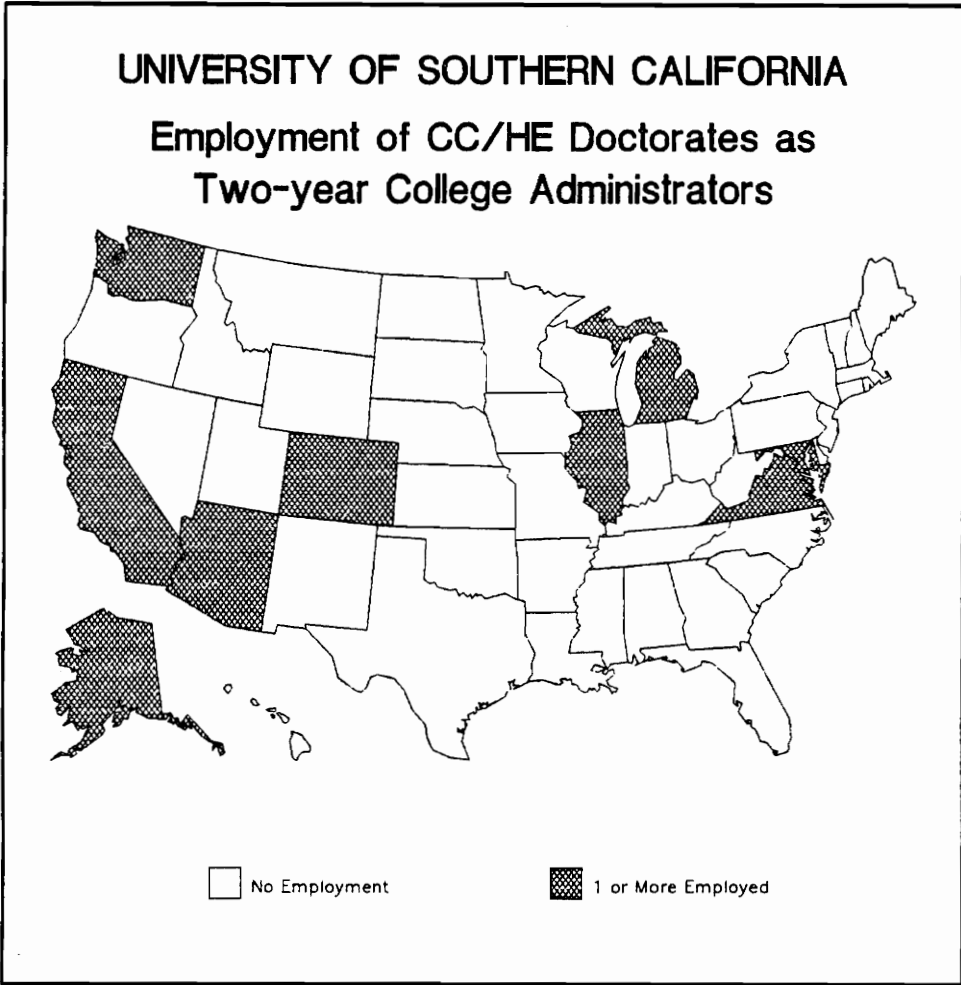


State	Number	Percent
CALIFORNIA	33	84.6%
COLORADO	3	7.7%
MARYLAND	1	2.6%
MICHIGAN	1	2.6%
WASHINGTON	1	2.6%
<b>Total</b>	<b>39</b>	<b>100.0%</b>

Figure 4.23

University of Southern California: Current Employment Location by State for Community College/Higher Education Doctorates

**UNIVERSITY OF SOUTHERN CALIFORNIA  
Employment of CC/HE Doctorates as  
Two-year College Administrators**



CC/HE stands for Community College/Higher Education  
For employment outside the U.S. see table

**State Listing**

ALASKA  
ARIZONA  
CALIFORNIA  
COLORADO  
ILLINOIS

MARYLAND  
MICHIGAN  
VIRGINIA  
WASHINGTON  
OUTSIDE US

**Figure 4.24**

**University of Southern California Community College/Higher Education Doctorates: Cumulative Locations by State for Post-doctoral Employment as a Two-year College Administrator**



education doctoral recipients, but no states employed between 10 and 20%.

#### Post-doctoral Employment

Employment three months after completing the doctorate (Figure 4.22) was reported in 4 states representing 3 of the 4 US regions (excluding the North), plus outside the United States. Less than 6% were employed outside the West. One state, California, employed over 20% of the new University of Southern California Community College/higher education doctoral recipients, but no states employed between 10 and 20%.

#### Current (1990) Employment

At the time of the survey, employment was reported in 5 states representing 3 of the 4 US regions (excluding the North). Less than 6% were employed outside the West (Figure 4.23). One state, California, employed over 20% of this university's community college/higher education doctoral recipients, but no states employed between 10 and 20%.

#### Cumulative Post-doctoral Locations

All post-doctoral employment of at least six months duration as a two-year college administrator (Figure 4.24) included service in a total of 9 states and outside the US.

Community college/higher education doctoral recipients reported working in 3 of the 4 US regions (excluding the North).

### Florida State University

Employment locations reported by Florida State community college/higher education doctoral recipients are shown in Figures 4.25 to 4.28. Each of the four maps is discussed individually below.

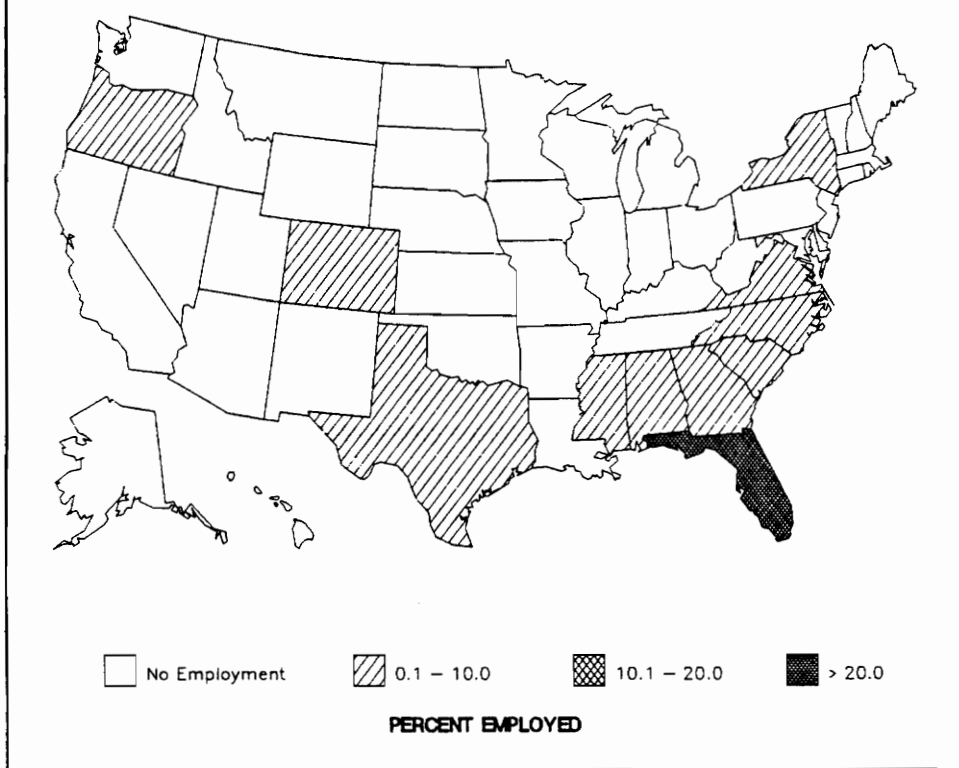
#### Pre-Doctoral Employment

Employment three months prior to beginning doctoral studies (Figure 4.25) was reported in 11 states representing 3 of the 4 US regions (excluding the Midwest), plus Puerto Rico. One state, Florida, employed over 20% of the future Florida State community college/higher education doctoral recipients, but no states employed between 10 and 20%.

#### Post-doctoral Employment

Employment three months after completing the doctorate (Figure 4.26) was reported in 13 states representing 3 of the 4 US regions (excluding the West). One state, Florida, employed over 20% of the new Florida State community college/higher education doctoral recipients, and 2 states, Virginia and Georgia, employed between 10 and 20%.

**FLORIDA STATE UNIVERSITY  
Community College/Higher Education Doctorates  
PRE-DOCTORAL EMPLOYMENT**

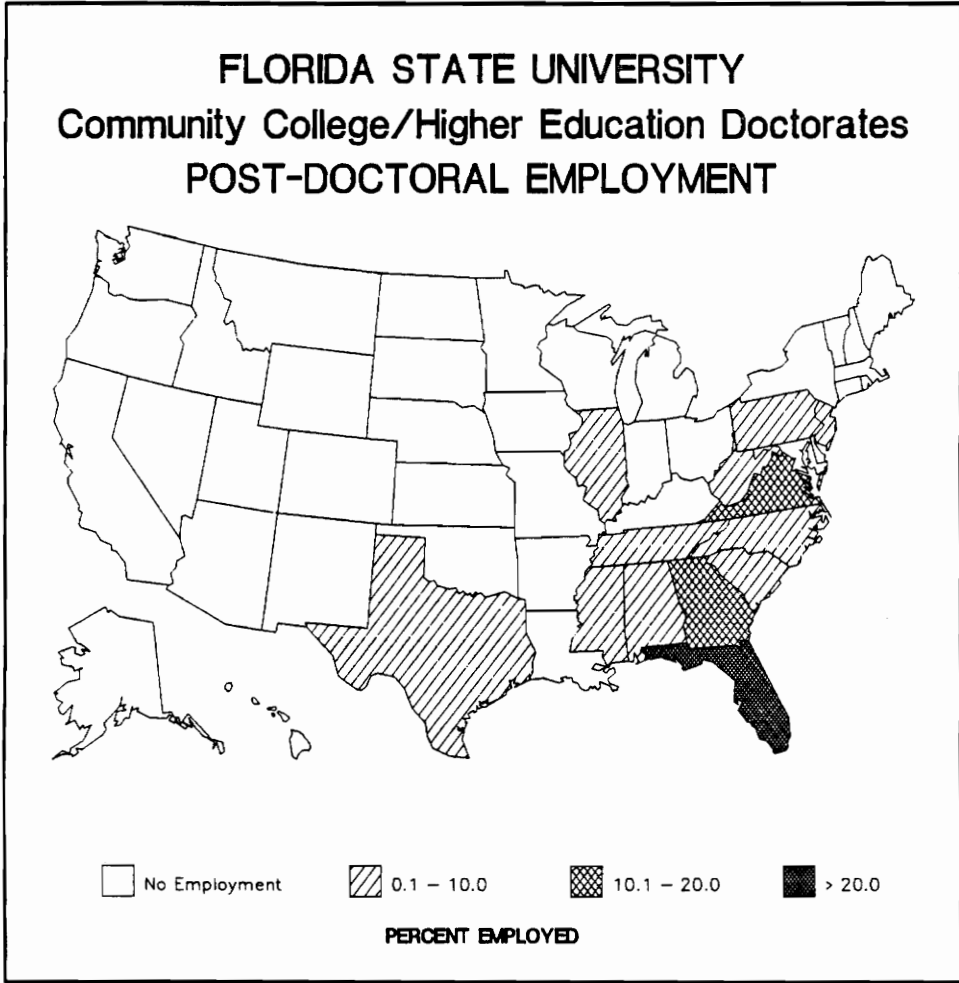


For employment in Puerto Rico see table

State	Number	Percent	State	Number	Percent
ALABAMA	2	5.4%	OREGON	1	2.7%
COLORADO	2	5.4%	S CAROLINA	2	5.4%
FLORIDA	19	51.4%	TEXAS	1	2.7%
GEORGIA	3	8.1%	VIRGINIA	1	2.7%
MISSISSIPPI	1	2.7%	PUERTO RICO	1	2.7%
NEW YORK	3	8.1%			
N CAROLINA	1	2.7%	<b>Total</b>	<b>37</b>	<b>100.0%</b>

Figure 4.25

Florida State University: Pre-doctoral Employment Location by State for Community College/Higher Education Doctorates

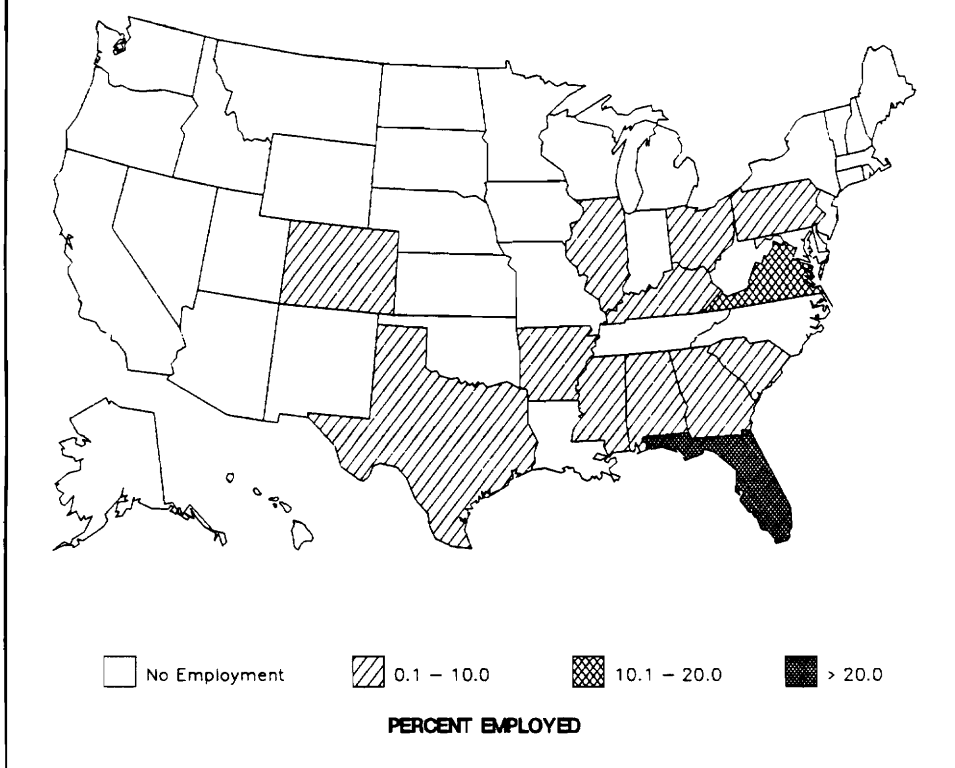


State	Number	Percent	State	Number	Percent
ALABAMA	1	2.6%	S CAROLINA	1	2.6%
FLORIDA	19	50.0%	TENNESSEE	1	2.6%
GEORGIA	4	10.5%	TEXAS	1	2.6%
ILLINOIS	1	2.6%	VIRGINIA	4	10.5%
MISSISSIPPI	1	2.6%	W VIRGINIA	1	2.6%
NEW JERSEY	1	2.6%			
N CAROLINA	2	5.3%	Total	38	100.0%
PENNSYLVANIA	1	2.6%			

Figure 4.26

Florida State University: Post-doctoral Employment Location (after three months) by State for Community College/Higher Education Doctorates

**FLORIDA STATE UNIVERSITY**  
**Community College/Higher Education Doctorates**  
**CURRENT (1990) EMPLOYMENT**

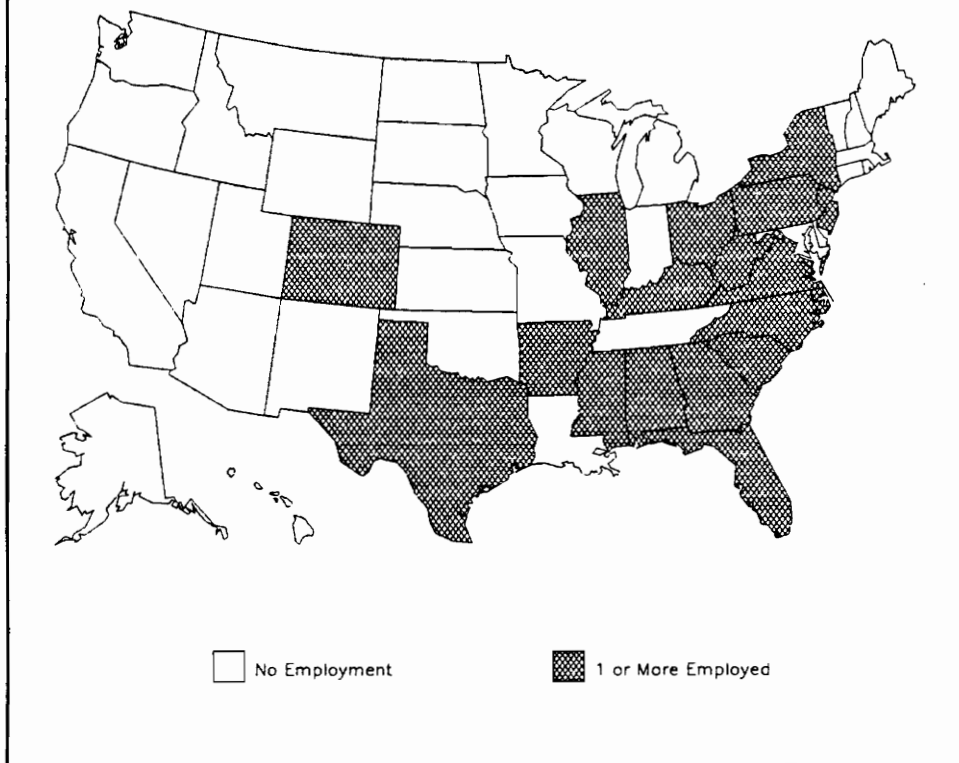


State	Number	Percent	State	Number	Percent
ALABAMA	1	2.6%	OHIO	1	2.6%
ARKANSAS	1	2.6%	PENNSYLVANIA	1	2.6%
COLORADO	2	5.3%	S CAROLINA	1	2.6%
FLORIDA	18	47.4%	TEXAS	1	2.6%
GEORGIA	2	5.3%	VIRGINIA	6	15.8%
ILLINOIS	2	5.3%			
KENTUCKY	1	2.6%	<b>Total</b>	<b>38</b>	<b>100.0%</b>
MISSISSIPPI	1	2.6%			

Figure 4.27

Florida State University: Current Employment Location by State for Community College/Higher Education Doctorates

**FLORIDA STATE UNIVERSITY**  
**Employment of CC/HE Doctorates as**  
**Two-year College Administrators**



CC/HE stands for Community College/Higher Education  
 For employment outside the U.S. see table

**State Listing**

ALABAMA  
 ARKANSAS  
 COLORADO  
 FLORIDA  
 GEORGIA  
 ILLINOIS  
 KENTUCKY  
 MISSISSIPPI  
 NEW JERSEY

NEW YORK  
 N CAROLINA  
 OHIO  
 PENNSYLVANIA  
 S CAROLINA  
 TEXAS  
 VIRGINIA  
 W VIRGINIA  
 OUTSIDE US

**Figure 4.28**

**Florida State University Community College/Higher Education Doctorates: Cumulative Locations by State for Post-doctoral Employment as a Two-year College Administrator**

### Current (1990) Employment

At the time of the survey, employment was reported in 13 states representing all 4 of the US regions (Figure 4.27). One state, Florida, employed over 20% of this university's community college/higher education doctoral recipients, and 1 state, Virginia, employed between 10 and 20%.

### Cumulative Post-doctoral Locations

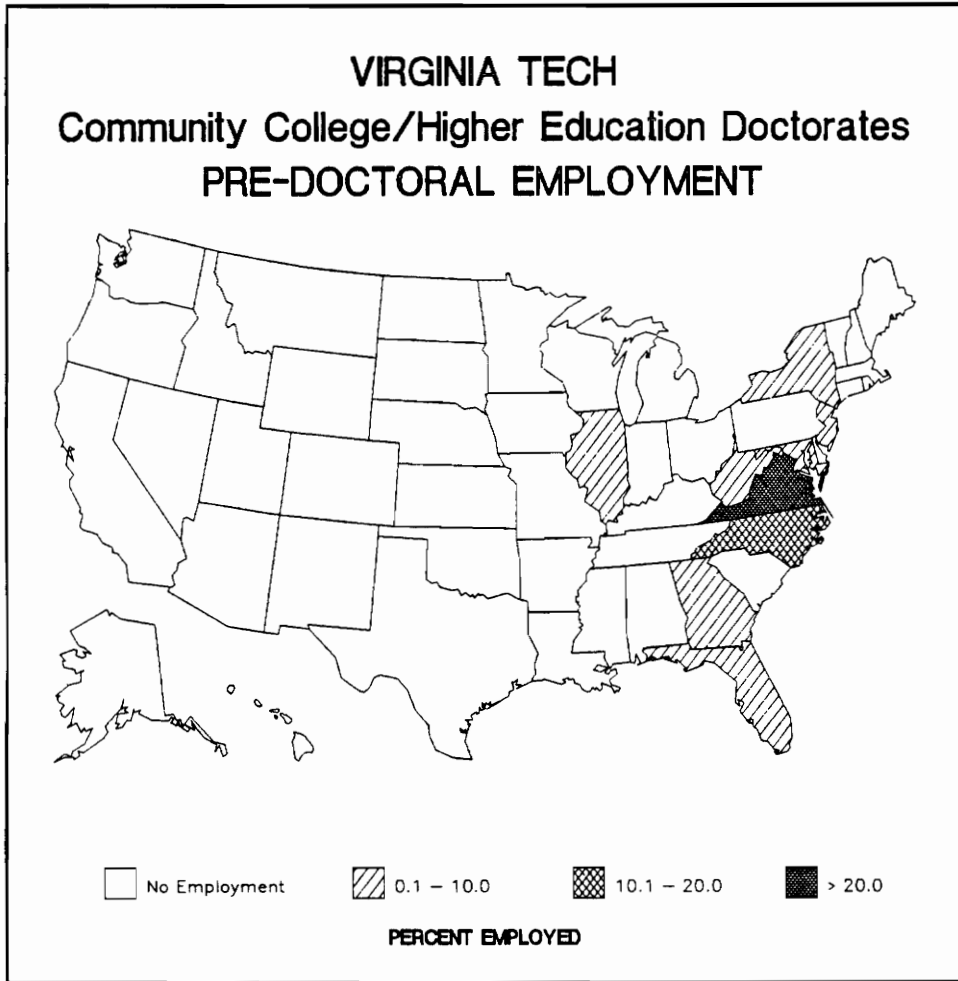
All post-doctoral employment of at least six months duration as a two-year college administrator (Figure 4.28) included service in a total of 17 states and outside the US. Community college/higher education doctoral recipients reported working in all 4 US regions.

### Virginia Polytechnic Institute and State University

Employment locations reported by Virginia Tech community college/higher education doctoral recipients are shown in Figures 4.29 to 4.32. Each of the four maps is discussed individually below.

### Pre-Doctoral Employment

Employment three months prior to beginning doctoral studies (Figure 4.29) was reported in the District of Columbia and 8 states representing 2 of the 4 US regions

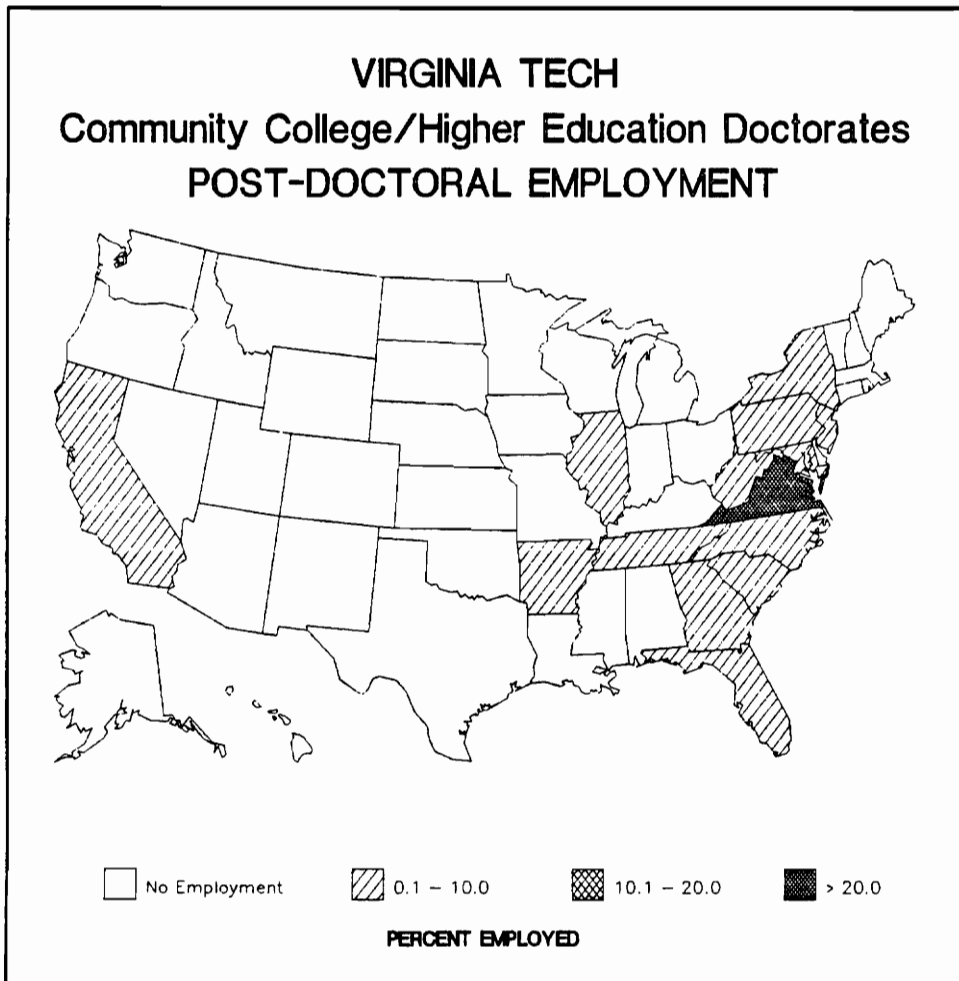


State	Number	Percent	State	Number	Percent
D C	1	3.6%	N CAROLINA	3	10.7%
FLORIDA	1	3.6%	VIRGINIA	16	57.1%
GEORGIA	1	3.6%	W VIRGINIA	1	3.6%
MARYLAND	2	7.1%			
NEW JERSEY	2	7.1%	Total	28	100.0%
NEW YORK	1	3.6%			

Figure 4.29

Virginia Polytechnic Institute and State University: Pre-doctoral Employment Location by State for Community College/Higher Education Doctorates



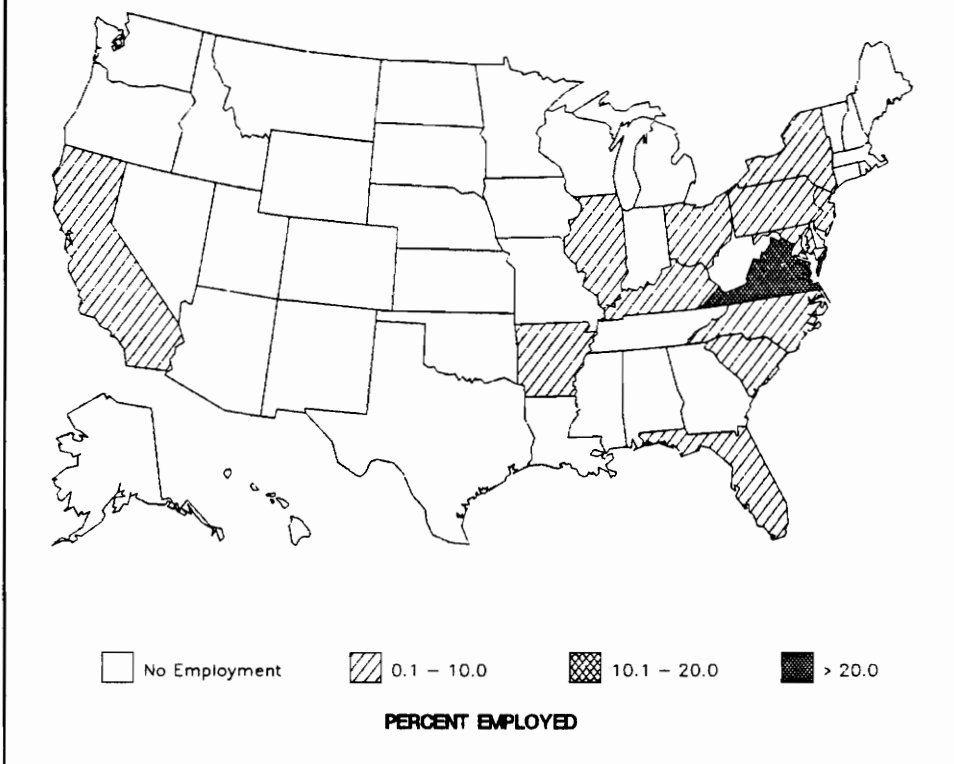


State	Number	Percent	State	Number	Percent
ARKANSAS	2	6.9%	N CAROLINA	1	3.4%
CALIFORNIA	1	3.4%	PENNSYLVANIA	1	3.4%
FLORIDA	1	3.4%	S CAROLINA	1	3.4%
GEORGIA	1	3.4%	TENNESSEE	1	3.4%
ILLINOIS	1	3.4%	VIRGINIA	13	44.8%
MARYLAND	1	3.4%	W VIRGINIA	1	3.4%
NEW JERSEY	2	6.9%			
NEW YORK	2	6.9%	<b>Total</b>	<b>29</b>	<b>100.0%</b>

Figure 4.30

Virginia Polytechnic Institute and State University: Post-doctoral Employment Location (after three months) by State for Community College/Higher Education Doctorates

**VIRGINIA TECH**  
**Community College/Higher Education Doctorates**  
**CURRENT (1990) EMPLOYMENT**

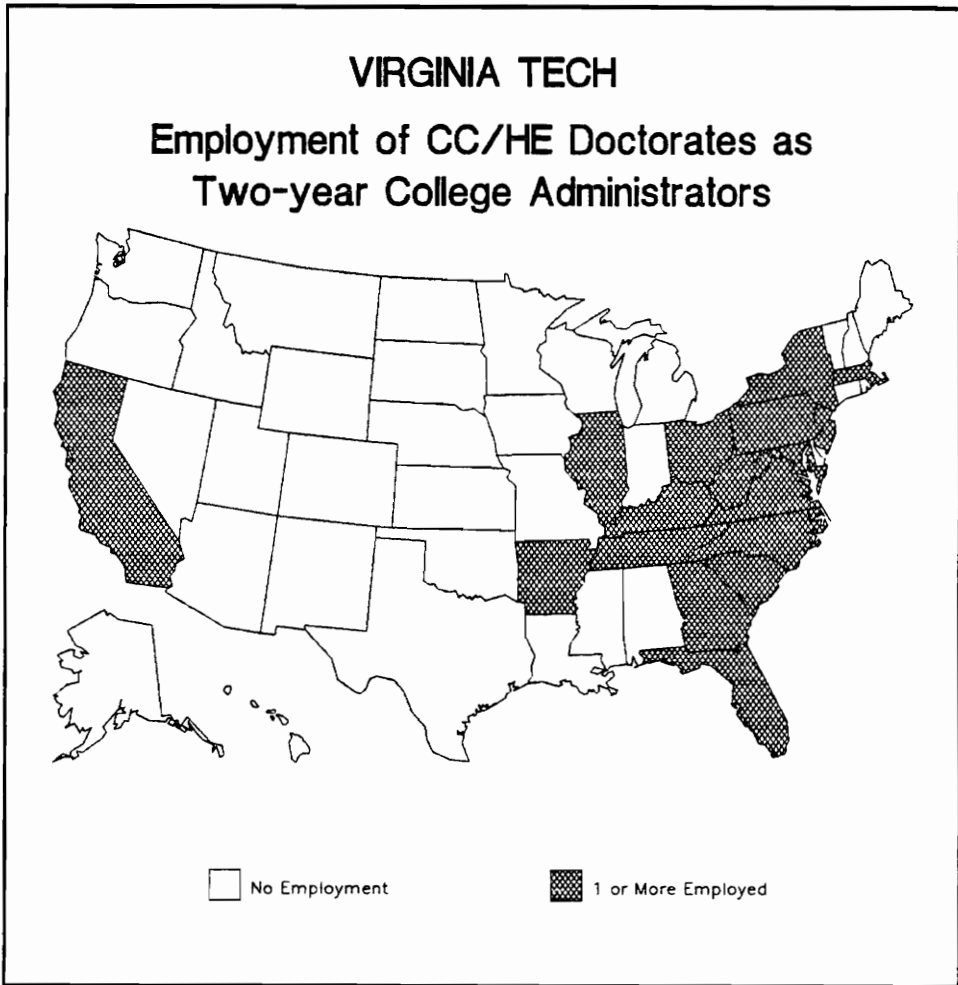


State	Number	Percent
ARKANSAS	2	6.7%
CALIFORNIA	2	6.7%
FLORIDA	1	3.3%
ILLINOIS	2	6.7%
KENTUCKY	1	3.3%
MARYLAND	1	3.3%
NEW JERSEY	2	6.7%
NEW YORK	1	3.3%

State	Number	Percent
N CAROLINA	2	6.7%
OHIO	2	6.7%
PENNSYLVANIA	2	6.7%
S CAROLINA	1	3.3%
VIRGINIA	11	36.7%
<b>Total</b>	<b>30</b>	<b>100.0%</b>

Figure 4.31

Virginia Polytechnic Institute and State University: Current Employment Location by State for Community College/Higher Education Doctorates



CC/HE stands for Community College/Higher Education

#### State Listing

ARKANSAS  
 CALIFORNIA  
 FLORIDA  
 GEORGIA  
 ILLINOIS  
 KENTUCKY  
 MARYLAND  
 MASSACHUSETTS  
 NEW JERSEY

NEW YORK  
 N CAROLINA  
 OHIO  
 PENNSYLVANIA  
 S CAROLINA  
 TENNESSEE  
 VIRGINIA  
 W VIRGINIA

Figure 4.32

Virginia Polytechnic Institute and State University  
Community College/Higher Education Doctorates: Cumulative  
Locations by State for Post-doctoral Employment as a Two-  
year College Administrator

(North and South). One state, Virginia, employed over 20% of the future Virginia Tech community college/higher education doctoral recipients, and 1 state, the adjacent North Carolina, employed between 10 and 20%.

#### Post-doctoral Employment

Employment three months after completing the doctorate (Figure 4.30) was reported in 14 states representing all 4 US regions. Less than 7% reported employment in the West and Midwest. One state, Virginia, employed over 20% of the new Virginia Tech community college/higher education doctoral recipients; no states employed between 10 and 20%.

#### Current (1990) Employment

At the time of the survey, employment was reported in 13 states representing all 4 of the US regions (Figure 4.31). One state, Virginia, employed over 20 % of this university's community college/higher education doctoral recipients, but no states employed between 10 and 20%.

#### Cumulative Post-doctoral Locations

All post-doctoral employment of at least six months duration as a two-year college administrator (Figure 4.32) included service in a total of 17 states. Community

college/higher education doctoral recipients reported working in all 4 US regions.

### UCLA

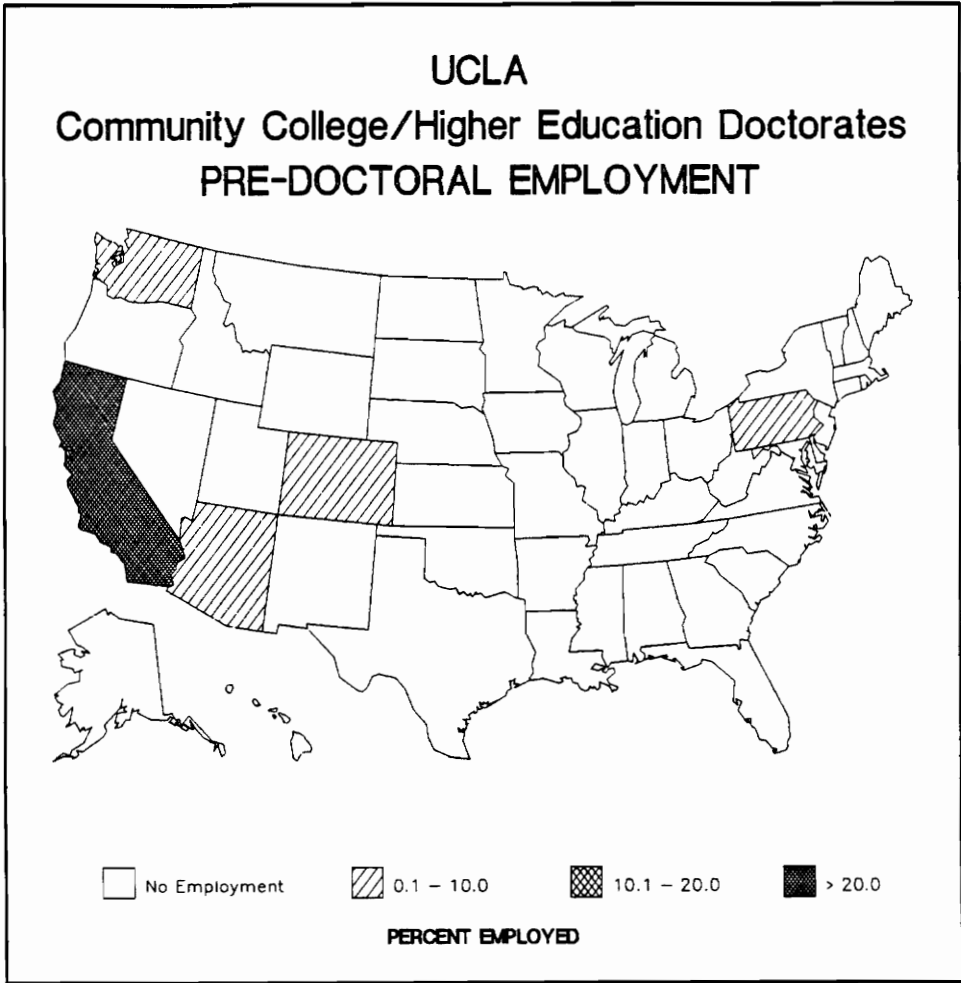
Employment locations reported by UCLA community college/higher education doctoral recipients are shown in Figures 4.33 to 4.36. Each of the four maps is discussed individually below.

#### Pre-Doctoral Employment

Employment three months prior to beginning doctoral studies (Figure 4.33) was reported in 5 states representing 2 of the 4 US regions, plus outside the US. Less than 5 % reported employment outside the West. One state, California, employed over 20% of the future UCLA community college/higher education doctoral recipients, but no states employed between 10 and 20%.

#### Post-doctoral Employment

Employment three months after completing the doctorate (Figure 4.34) was reported in 3 states representing 3 of the 4 US regions (excluding the South). One state, California, employed over 20% of the new UCLA community college/higher education doctoral recipients, but no states employed between 10 and 20%.

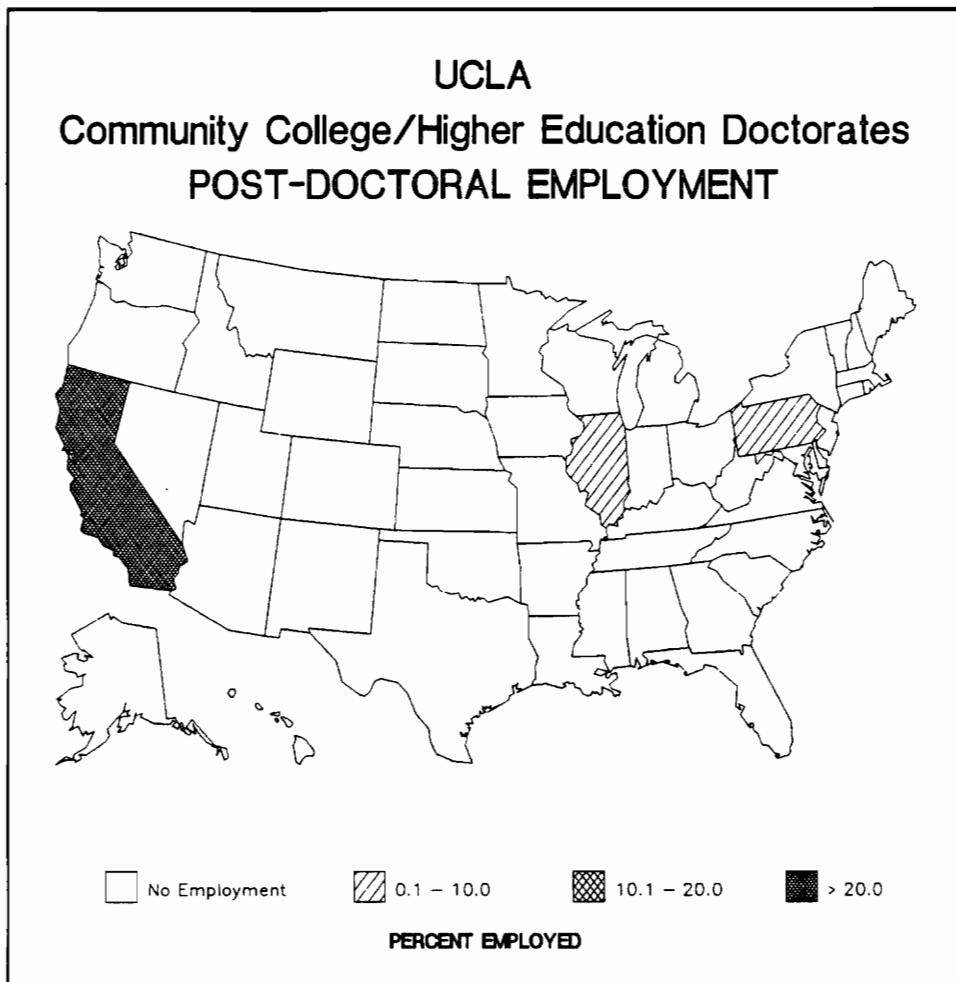


For employment outside the U.S. see table

State	Number	Percent
ARIZONA	1	4.3%
CALIFORNIA	18	78.3%
COLORADO	1	4.3%
PENNSYLVANIA	1	4.3%
WASHINGTON	1	4.3%
OUTSIDE US	1	4.3%
<b>Total</b>	<b>23</b>	<b>100.0%</b>

Figure 4.33

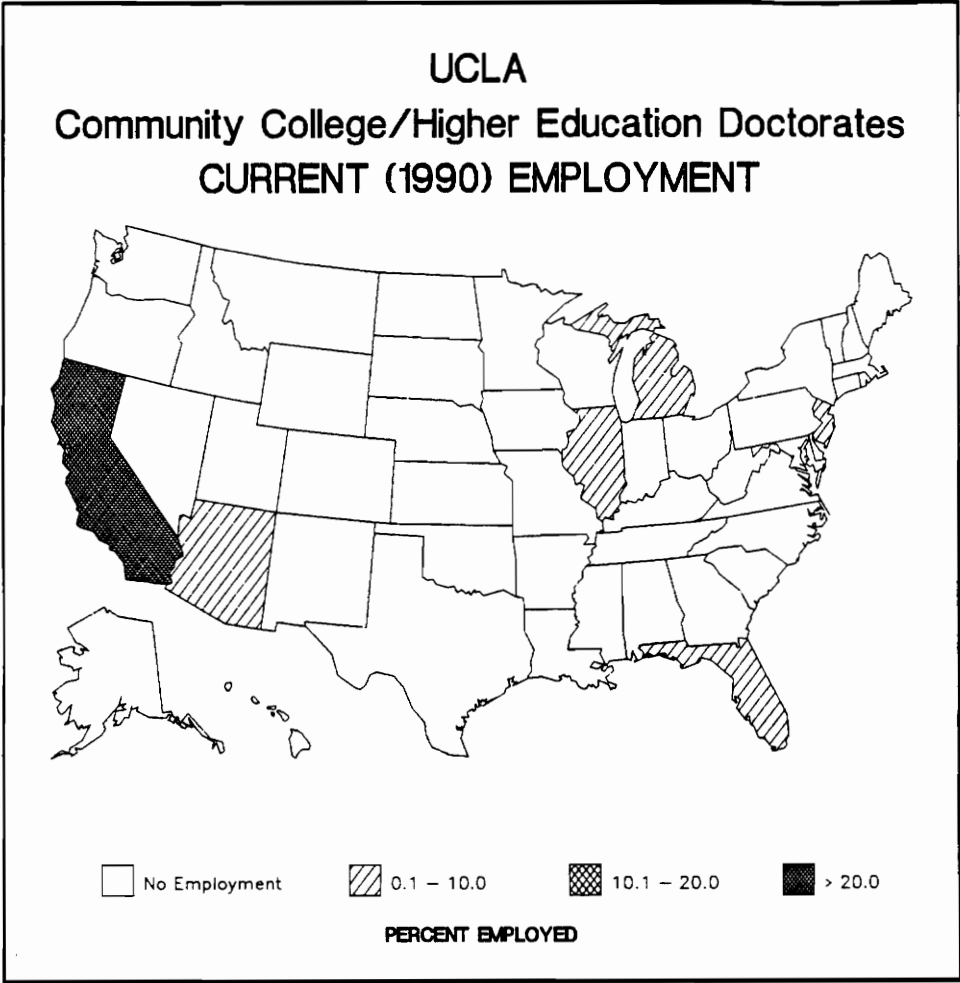
UCLA: Pre-doctoral Employment Location by State for Community College/Higher Education Doctorates



State	Number	Percent
CALIFORNIA	22	91.7%
ILLINOIS	1	4.2%
PENNSYLVANIA	1	4.2%
<b>Total</b>	<b>24</b>	<b>100.0%</b>

Figure 4.34

UCLA: Post-doctoral Employment Location (after three months) by State for Community College/Higher Education Doctorates

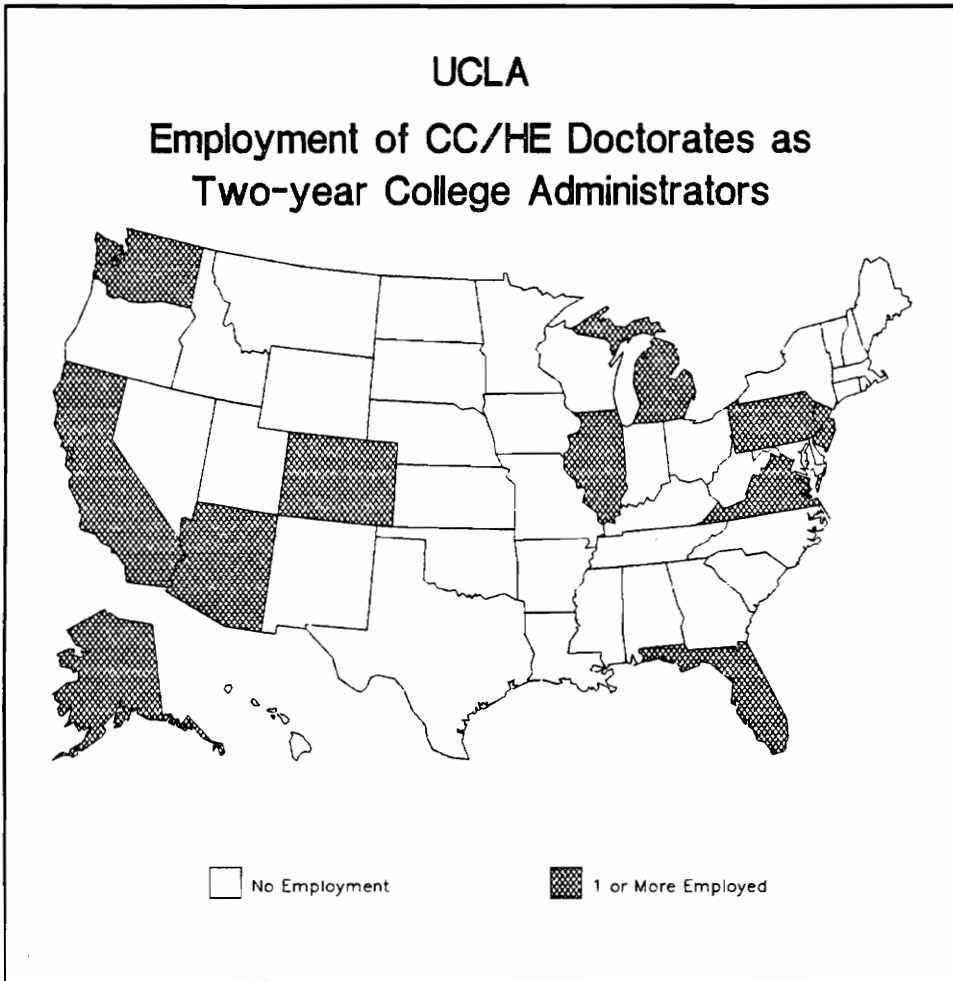


State	Number	Percent
ARIZONA	1	3.8%
CALIFORNIA	21	80.8%
FLORIDA	1	3.8%
ILLINOIS	1	3.8%
MICHIGAN	1	3.8%
NEW JERSEY	1	3.8%
Total	26	100.0%

Figure 4.35

UCLA: Current Employment Location by State for Community College/Higher Education Doctorates





CC/HE stands for Community College/Higher Education

**State Listing**

ALASKA  
 ARIZONA  
 CALIFORNIA  
 FLORIDA  
 ILLINOIS

MICHIGAN  
 NEW JERSEY  
 PENNSYLVANIA  
 VIRGINIA  
 WASHINGTON

Figure 4.36

UCLA Community College/Higher Education Doctorates:  
 Cumulative Locations by State for Post-doctoral Employment  
 as a Two-year College Administrator

### Current (1990) Employment

At the time of the survey, employment was reported in 6 states representing all 4 US regions (Figure 4.35). One state, California, employed over 20% of this university's community college/higher education doctoral recipients, but no states employed between 10 and 20%.

### Cumulative Post-doctoral Locations

All post-doctoral employment of at least six months duration as a two-year college administrator (Figure 4.36) included service in a total of 10 states. Community college/higher education doctoral recipients reported working in all 4 US regions.

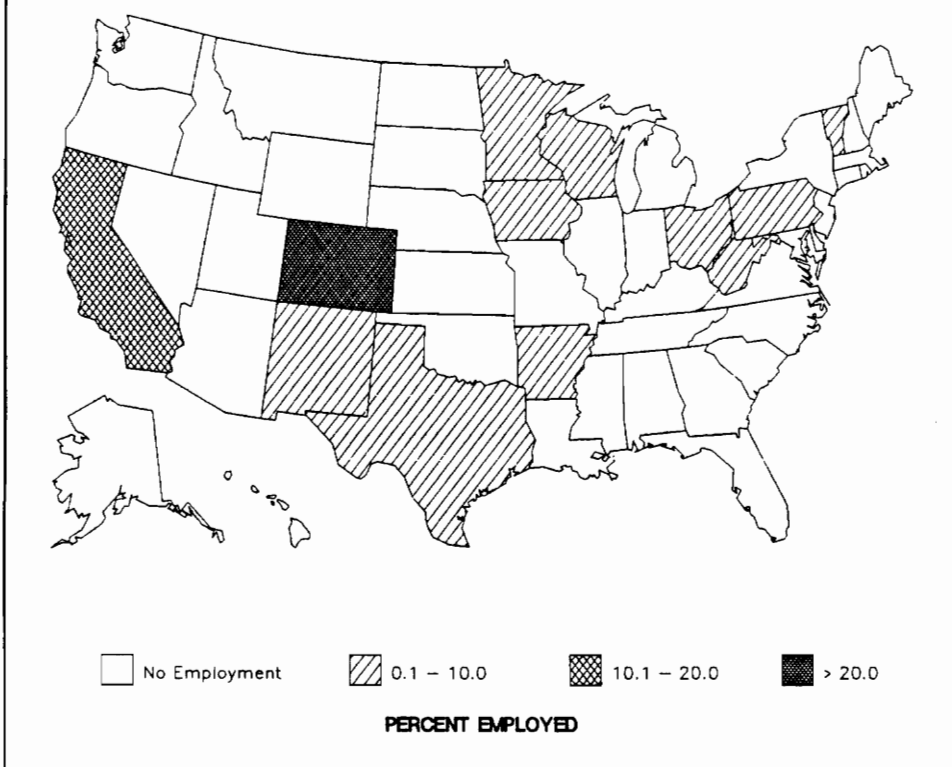
### University of Northern Colorado

Employment locations reported by University of Northern Colorado community college/higher education doctoral recipients are shown in Figures 4.37 to 4.40. Each of the four maps is discussed individually below.

### Pre-Doctoral Employment

Employment three months prior to beginning doctoral studies (Figure 4.37) was reported in 12 states representing all 4 US regions. One state, Colorado, employed over 20% of the future University of Northern Colorado community

**UNIVERSITY OF NORTHERN COLORADO**  
**Community College/Higher Education Doctorates**  
**PRE-DOCTORAL EMPLOYMENT**

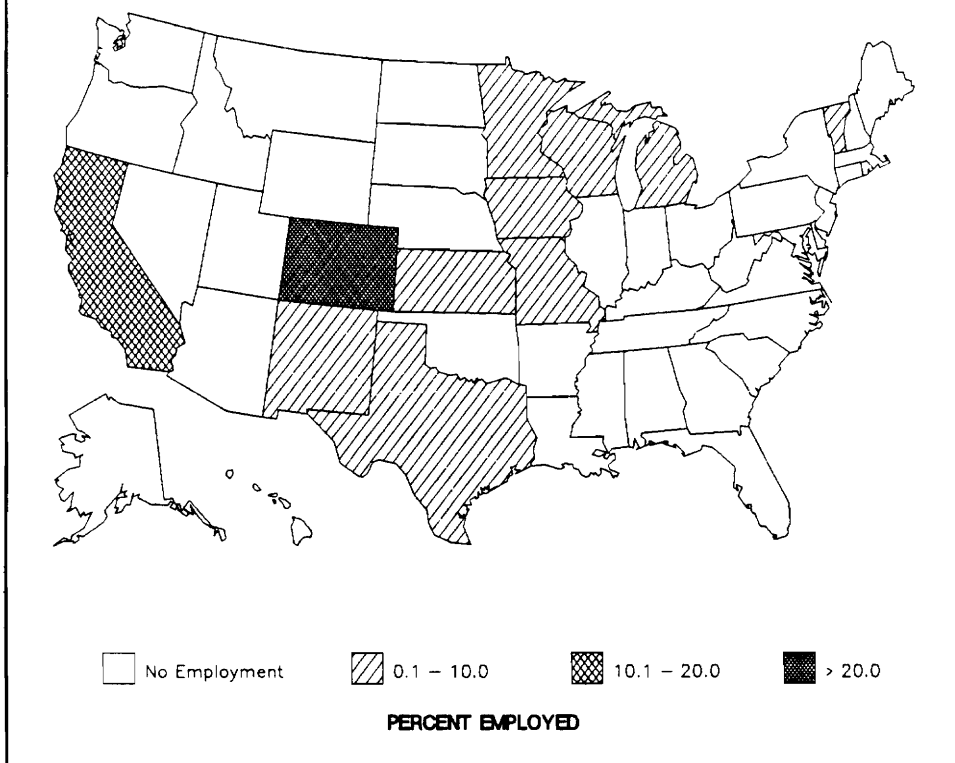


State	Number	Percent	State	Number	Percent
ARKANSAS	1	4.3%	PENNSYLVANIA	1	4.3%
CALIFORNIA	3	13.0%	TEXAS	1	4.3%
COLORADO	9	39.1%	VERMONT	1	4.3%
IOWA	1	4.3%	W VIRGINIA	1	4.3%
MINNESOTA	1	4.3%	WISCONSIN	2	8.7%
NEW MEXICO	1	4.3%			
OHIO	1	4.3%	<b>Total</b>	<b>23</b>	<b>100.0%</b>

Figure 4.37

University of Northern Colorado: Pre-doctoral Employment Location by State for Community College/Higher Education Doctorates

**UNIVERSITY OF NORTHERN COLORADO**  
**Community College/Higher Education Doctorates**  
**POST-DOCTORAL EMPLOYMENT**

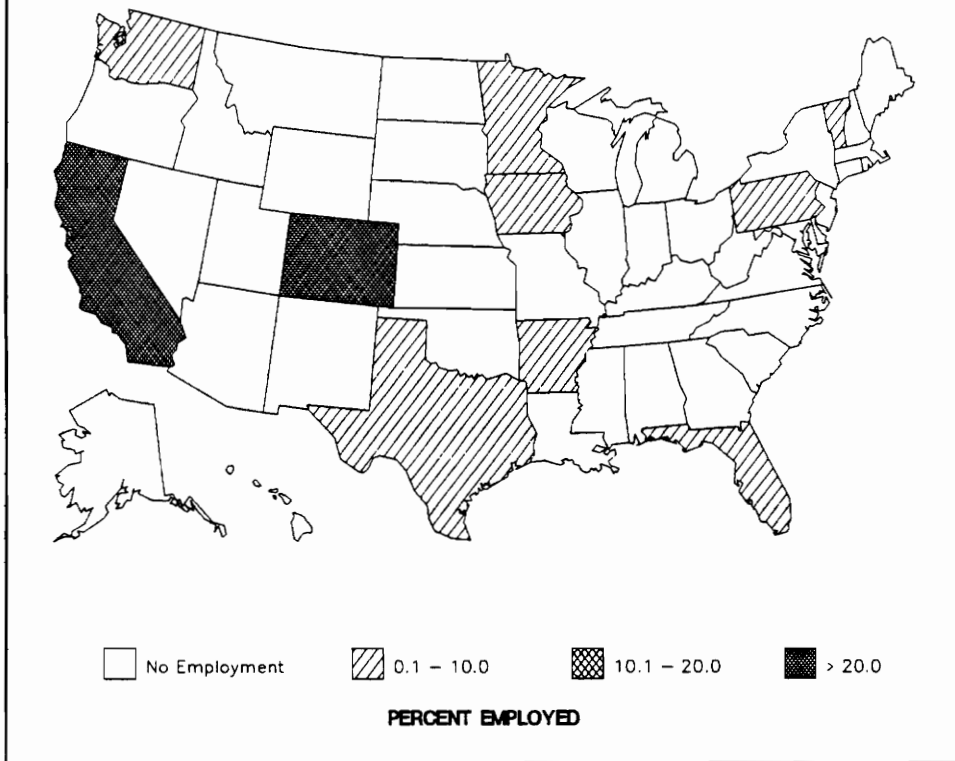


State	Number	Percent	State	Number	Percent
CALIFORNIA	3	12.5%	NEW MEXICO	1	4.2%
COLORADO	11	45.8%	TEXAS	1	4.2%
IOWA	1	4.2%	VERMONT	1	4.2%
KANSAS	1	4.2%	WISCONSIN	1	4.2%
MICHIGAN	1	4.2%			
MINNESOTA	1	4.2%	Total	24	100.0%
MISSOURI	2	8.3%			

Figure 4.38

University of Northern Colorado: Post-doctoral Employment Location (after three months) by State for Community College/Higher Education Doctorates

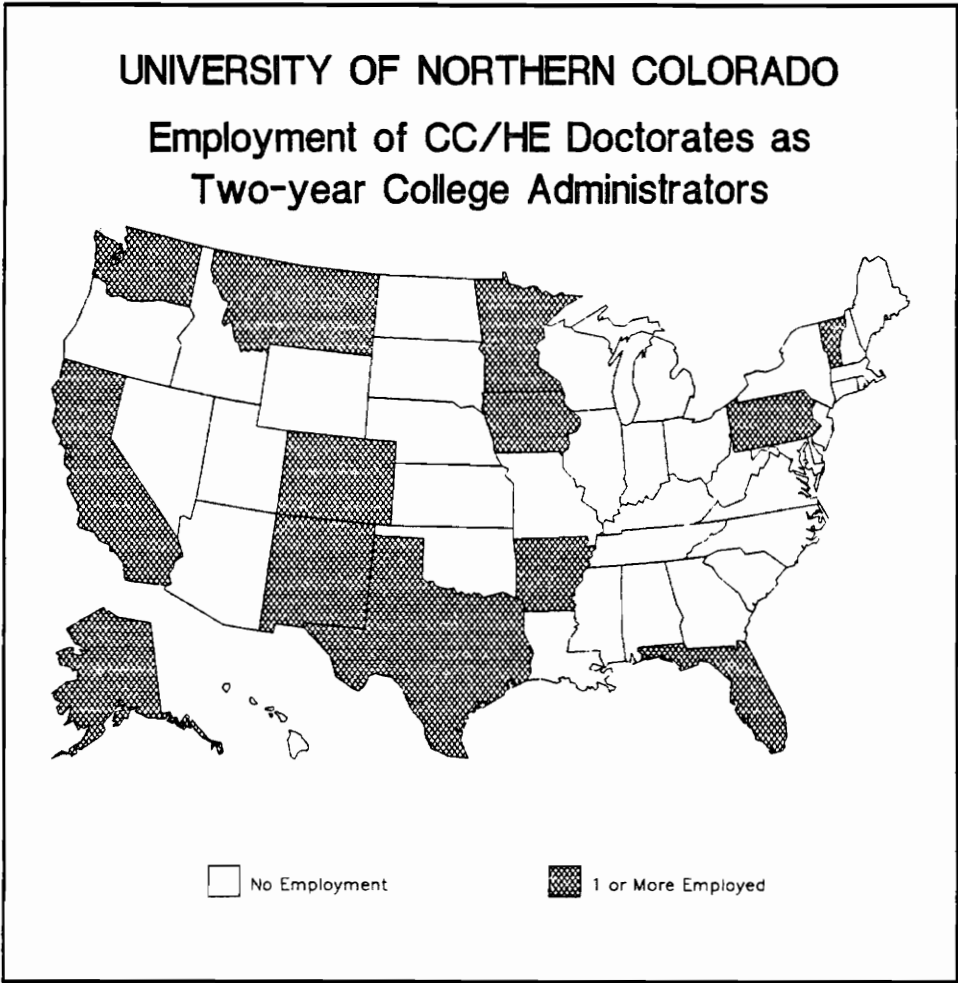
**UNIVERSITY OF NORTHERN COLORADO  
Community College/Higher Education Doctorates  
CURRENT (1990) EMPLOYMENT**



State	Number	Percent	State	Number	Percent
ARKANSAS	1	3.8%	PENNSYLVANIA	1	3.8%
CALIFORNIA	7	26.9%	TEXAS	2	7.7%
COLORADO	9	34.6%	VERMONT	1	3.8%
FLORIDA	1	3.8%	WASHINGTON	1	3.8%
IOWA	2	7.7%	Total	26	100.0%
MINNESOTA	1	3.8%			

Figure 4.39

University of Northern Colorado: Current Employment Location by State for Community College/Higher Education Doctorates



CC/HE stands for Community College/Higher Education

#### State Listing

ALASKA  
 ARKANSAS  
 CALIFORNIA  
 COLORADO  
 FLORIDA  
 IOWA  
 MINNESOTA

MONTANA  
 NEW MEXICO  
 PENNSYLVANIA  
 TEXAS  
 VERMONT  
 WASHINGTON

Figure 4.40

University of Northern Colorado Community College/Higher Education Doctorates: Cumulative Locations by State for Post-doctoral Employment as a Two-year College Administrator

college/higher education doctoral recipients, and 1 state, California, employed between 10 and 20%.

#### Post-doctoral Employment

Employment three months after completing the doctorate (Figure 4.38) was reported in 11 states representing all 4 US regions. One state, Colorado, employed over 20% of the new University of Northern Colorado community college/higher education doctoral recipients, and 1 state, California, employed between 10 and 20%.

#### Current (1990) Employment

At the time of the survey, employment was reported in 10 states representing all 4 US regions (Figure 4.39). Two states, Colorado and California, employed over 20% of this university's community college/higher education doctoral recipients, but no states employed between 10 and 20%.

#### Cumulative Post-doctoral Locations

All post-doctoral employment of at least six months duration as a two-year college administrator (Figure 4.40) included service in a total of 13 states. Community college/higher education doctoral recipients reported working in all 4 US regions.

**Senior Two-Year College Administrators  
with Community College/Higher Education Doctorates**

Since the previous analyses begin to point to several institutions (e.g. Nova University and the University of Texas at Austin) as being more national in distribution of their community college/higher education doctoral recipients, an additional factor which distinguishes Dressel and Mayhew (1974) type 1 (national) and type 2 (local or regional) programs was added to the research plan. A type 1 (national) program is characterized by Dressel and Mayhew in this way:

. . . the aspirations are to prepare people for upper administrative echelons in collegiate institutions, the higher education bureaucracy, or organized philanthropy (p. 33).

This factor of level of administrator prepared was available from existing HEP data for each individual in the population.

Within the two-year college administrative labor market, the president, executive vice-president, and chief academic officer are three senior-level administrative positions among the wide range of positions included (see Chapter 1, Limitations).

The ten institutions producing the highest number of community college/higher education doctoral recipients employed in the two-year college administrative labor market were analyzed for relative production of senior two-year



college administrators (presidents, executive vice-presidents, and chief academic officers). Table 4.29 shows these positions in numbers and percents of the community college/higher education doctoral recipients employed in this labor market. All two-year college administrators in the identified senior administrative positions appear in the "Senior Administrators" column, while only those who earned their doctorate within the last ten years appear in the "Senior Administrators Doct. 1980+" column. This last column of more recent doctorates helps to reduce such underlying variations as the length of time a program was in existence and the possible effects of length of time since earning the doctorate on level of position achieved.

These ten institutions produced approximately one-third of each of the three categories of two-year college administrators represented in Table 4.29: (a) all currently employed two-year college administrators with community college/higher education doctorates (N); (b) senior administrators with the community college/higher education doctorate; and (c) senior administrators with the community college/higher education doctorate earned in the last 10 years.

Among these ten institutions, Florida State University had the highest percent (65.8%) of all senior administrators, followed by North Carolina State University

Table 4.29

Number of Senior Two-Year College Administrators (Presidents, Executive Vice-presidents and Chief Academic Officers) with Community College/Higher Education Doctorates from the Ten Institutions Graduating the Highest Number of These Doctoral Recipients in the Two-year College Administrative Labor Market, 1990

Institution	N*	Senior Administrators		Senior Administrators Doct. 1980+	
		No.	%	No.	%
Nova University	141	32	22.7	15	10.6
Univ of Texas at Austin	58	33	56.9	19	32.8
North Carolina State Univ	50	30	60.0	5	10.0
Univ of Florida	45	19	42.2	2	4.4
Michigan State Univ	41	16	39.0	3	7.3
Univ of Southern California	39	17	43.6	4	10.3
Florida State Univ	38	25	65.8	7	18.4
Virginia Polytechnic Institute and State University	30	12	40.0	6	20.0
UCLA	26	12	46.2	1	3.8
Univ of Northern Colorado	26	8	30.8	1	3.8

N\* = Number of Community College/Higher Education Doctorates Reported for This Institution

(60.0%) and University of Texas at Austin (56.9%). Nova University, which had the highest number of community college/higher education doctorates employed as two-year college administrators, had the lowest percentage (22.7%) of senior administrators among the ten top producers.

When considering only those doctorates awarded in the past ten years, University of Texas at Austin had the highest percent (32.8%), followed by Virginia Polytechnic Institute and State University (20.0%) and Florida State University (18.4%). Nova University at 10.6% was fourth among the ten.

The research results presented in this chapter are summarized and discussed in relation to the literature in the following chapter on conclusions. Additionally, the relation to future research directions is discussed.

## Chapter 5

### CONCLUSIONS

#### Overview of the Study

While understanding of the role of higher education doctoral programs has been growing, the importance of developing the next generation of two-year college leaders (Commission on the Future of Community Colleges, 1988) supports further research to answer questions about the relation of these programs to the labor market for two-year college administrators. This study follows a series of research efforts on the two-year college administrative labor market and on doctoral education in the field of higher education.

Research on internal labor market boundaries (e.g. Clark, 1988/89) points to regional location as a defining factor in the two-year college administrative labor market. In addition, a typology of higher education doctoral programs (Dressel & Mayhew, 1974) uses national versus local or regional perspective as a distinguishing factor. This study analyzes the employment region of community college/ higher education doctoral recipients in the two-year college administrative labor market as it relates to the regional location of the doctoral-granting institution. The research questions were these:

1. Based upon the career experience of today's two-year college administrators who hold an earned doctorate in community college or higher education, does the Dressel and Mayhew (1974) typology of higher education doctoral programs portray the local and regional orientation of higher education doctoral programs preparing two-year college administrators?

2. What is the relationship between the location of the doctoral degree-granting institution and location of each of the following: last pre-doctoral employer, first post-doctoral employer, and current employer, for two-year college administrators with earned doctorates in community college or higher education in 1990?

Data for this research was obtained from the National Data Service for Higher Education; from a survey of 3,734 two-year college administrators identified as "Dr." in the HEP 90 Higher Education Directory; and, for some of the non-respondents, from published college catalogs. Data analysis was through contingency tables following the method of Clark (1988/89) and by construction of SASgraph maps of employment locations for community college/higher education doctoral recipients from ten individual doctoral-granting institutions.

### Summary of Results

The research findings include the following descriptive data on community college or higher education as a field of study for two-year college administrators with earned doctorates employed in 1990 in the two-year college administrative labor market:

1. Community college or higher education was the major field of study for 48.4% of the two-year college administrators with earned doctorates.

2. Of the 48.4% of doctorates earned in community college or higher education, 60.1% were the Ed.D., 39.5% were the Ph.D., and 0.4% were other degrees.

3. Of the 87 institutions identified by Townsend as offering higher education doctoral programs in 1987, 82 were represented by individuals with community college/higher education doctorates who were employed in 1990 as two-year college administrators.

4. Over one-third of the community college/higher education doctorates were awarded by ten institutions.

Research findings on the regional analysis of location of doctoral-granting institution and location of pre-doctoral, post-doctoral, and current (1990) employment include the following:

1. Movement into community college or higher education doctoral programs from pre-doctoral employment location shows strong in-state and in-region tendencies.

2. Movement from location of the doctoral-granting institution to the post-doctoral employment location (at three months after receiving the doctorate) shows strong in-state and in-region tendencies.

3. Movement from location of the doctoral-granting institution to the current (1990) employment location shows strong in-state and in-region tendencies.

4. In-region associations between the doctoral-granting institution and the employment location at all three time periods (pre-doctoral, post-doctoral, and current, 1990 employment locations) remain strong even when same-state pairs are removed from the analysis.

5. Exclusion of doctorates from a field-based program (Nova University) which is the largest single cumulative producer of community college or higher education doctorates in this labor market strengthens the in-region association of the remaining doctoral-granting institutions with employment location at all three time periods: pre-doctoral, post-doctoral, and current (1990).

6. In-region tendencies exist for both recent (five or less years since earning the doctorate) and long-standing (fifteen or more years since earning the doctorate)

community college/higher education doctoral-degree holders in this labor market.

Individual analysis of the ten highest cumulative producers of community college/higher education doctoral recipients employed in the two-year college administrative labor market in 1990 reveals the following findings:

1. The wide range of in-state employment (approximately 15% to 92%) among these ten institutions is similar at pre-doctoral, post-doctoral, and current (1990) employment locations.

2. The range of in-region employment (approximately 48% to 100%) among these ten institutions is also similar at each of the three points of employment, but it is a narrower range than that for in-state employment.

3. Among these ten institutions, four (Nova University, University of Northern Colorado, University of Texas at Austin, and Michigan State University) have approximately 30% or more of their community college/higher education doctoral recipients employed outside the region of the institution at the pre-doctoral, post-doctoral, and current (1990) employment times.

4. Based on number of regions and states represented at the pre-doctoral, post-doctoral, and current (1990) employment times as well as for the cumulative post-doctoral employment locations as a two-year college administrator,



for the four institutions with 30% or more of their doctorates out-of-region (see item 3 above), Nova University community college/higher education doctoral recipients are the most nationally dispersed, followed in order by University of Texas at Austin, Michigan State University, and University of Northern Colorado.

5. Among the ten institutions, Florida State University, North Carolina State University, and University of Texas at Austin have the highest proportion of their community college/higher education doctoral recipients employed in 1990 as two-year college administrators in positions as president, executive vice-president, and chief academic officer. When considering only community college/higher education doctorates earned from 1980 to 1990, University of Texas at Austin had the highest proportion, followed in order by Virginia Polytechnic Institute and State University, Florida State University, and Nova University.

### Conclusions

Research question 1 refers to the Dressel and Mayhew (1974) typology of higher education programs, in which the authors distinguished type 1, national perspective programs, from type 2, local or regional perspective programs. The present study looks at how that typology relates to

experience within the two-year college administrative labor market. Since this study does not consider all of the possible employment outcomes from higher education doctoral programs, it is impossible from this research to comment on the overall validity of the Dressel and Mayhew typology. Rather, this analysis focuses on the relationships between higher education doctoral programs and the two-year college administrative labor market using Dressel and Mayhew's typology as a guide. Comments on the applicability of the typology apply only to this labor market as reported by incumbents in 1990.

The 1,473 two-year college administrators who reported that their doctoral education emphasized community college or higher education came from 165 different doctoral-granting institutions. Ten of these institutions awarded over one-third of the community college or higher education doctorates. They include four institutions (University of Texas, Michigan State University, Florida State University, and UCLA) which were cited as examples of type 1, or national perspective programs, by Dressel and Mayhew (1974) in their description of the higher education program typology. The same four institutions also appear in the Johnson and Drewry (1982) and Keim (1983) lists of the top higher education doctoral programs in the United States. Of the four type 1 institutions, one (University of Texas)

shows a more national perspective in recruitment and placement of graduates than the other three. One (UCLA), which shows a more state-oriented perspective, also appears to be regionally oriented, but this is based almost entirely on the strong state orientation. The other two institutions, Michigan State and Florida State fall between the state and national orientations of the University of Texas and UCLA. These type 1 programs show diversity in their regional patterns within the two-year college administrative labor market that would not be anticipated from the Dressel and Mayhew typology.

As indicated by Dressel and Mayhew, state and region are a generally strong orientation of community college/higher education doctoral programs in the United States. When looked at in aggregate for all such doctoral programs, state has the most orientation and this strengthens the regional perspective. However, even when removing same-state pairs, region has been shown to be an identifiable feature of the relationship between doctoral-granting institution and employment location at the pre-doctoral, post-doctoral and current (1990) points in time.

When individual doctoral programs are considered, however, a range of state, regional, and national orientation becomes evident. Out of the ten institutions graduating the largest numbers of community college/higher

education doctorates, at least two can be characterized as having a national orientation and at least one can be said to be state-oriented. In between, the variety of state, regional, and national orientation patterns suggests the possibility that a range of program types or a different categorization of program types may more fully describe the programs supplying the two-year college administrative labor market.

Two institutions (Nova University and the University of Texas at Austin) among the ten with the most community college/higher education doctorates employed in 1990 as two-year college administrators, rank highest in national distribution of their community college/higher education doctorates at pre-doctoral, post-doctoral, and current (1990) employment. The two institutions, however, are based on different models which influence this distribution. Nova University has used a field-based approach to doctoral education that allows individuals to complete their doctorate through attendance at regional sites with minimal time at the home campus in Florida. The University of Texas at Austin has used a residency model that requires more time at the home campus. Thus the Nova University maps do not reflect "movement" of students in the same way that the maps for the University of Texas at Austin do. The Dressel and Mayhew typology does not consider the extensive use of

field-based doctoral education used by the institution which has, in this labor market, the most national distribution of its community college or higher education doctorates, nor did the original concept for this research study.

The typology does not consider the possible difference in preparing future senior-level administrators versus providing credentials to those who already hold such positions. In a labor market where doctoral education is used for career enhancement rather than career entry, as it is in the two-year college administrative labor market (Twombly, 1985; Crosson & Nelson, 1986), this situation is a distinct possibility.

Research question 2 addresses the relationship between location of doctoral degree-granting institution and location of pre-doctoral, post-doctoral, and current (1990) employment. The findings clearly show that there is a relationship for each point in time and that the nature of the relationship is that of employment predominantly within the region of the degree-granting institution.

#### Relation to the Literature

In studying an aspect of the two-year college administrative labor market, the present study provides updated and additional descriptive information on two-year college administrative personnel who hold an earned

doctorate and, more extensively, on those whose earned doctorate is in the field of community college or higher education. Vaughan's (1986) study of community college presidents found that 75% had doctorates. Higher education was the field of study for 46% and other areas of education, 30%. For the broad range of administrative positions held by two-year college administrators with earned doctorates included in the present study the percentages were similar: 48.4% earned their doctorates in community college or higher education, 29.1% in other areas of education.

Moore, Twombly and Martorana (1985) provided descriptive information from a national study of community college administrators. Twombly (1985) considered the dimensions of level and timing of education within two-year college administrative positions. The present study provides 1990 data for a specific portion of two-year college administrators, and it presents a dimension of regional relationships between doctoral institution and employment location for those who hold an earned doctorate in community college or higher education. Twombly (1988) now suggests that characteristics of the two-year college administrative labor market may suggest a "new and different type of labor market" (p. 685). The doctoral education experience of 1990 two-year college administrators with earned doctorates in community college or higher education

may be a part of such portfolios of experiences that contribute to attaining top positions. These portfolios are felt to distinguish the new type of labor market to which two-year college administration may belong.

Clark (1988/89) identified geographic location as contributing significant structure to the two-year college administrative labor market. In the present study, location by state and region have been found to be a significant factor in doctoral education in the field of community college and higher education within this labor market.

Horton's (1988) study of mobility concepts among two-year college mid-level managers found a strong tendency to hire locally or regionally. The career experience of the study population for the present research is consistent with that finding of local and regional tendencies.

Crosson and Nelson (1986) found much homogeneity in the descriptions provided by program directors for recruitment locally, regionally, and nationally into their higher education doctoral programs. The analysis of pre-doctoral employment at three months prior to beginning doctoral study for the ten institutions with the highest number of community college/higher education doctorates employed in 1990 in two-year college administrative positions shows a diversity of patterns from state-centered to regionally-oriented and, even, nationally-oriented programs. This

diversity, which was not evident from descriptions provided by program directors, may even exceed that of the Dressel and Mayhew typology.

The Townsend list of higher education doctoral programs for 1987 lists 9 of the 10 institutions granting the most community college/higher education doctorates in this labor market. Of the ten, only Virginia Polytechnic Institute and State University, with 30 community college or higher education doctoral recipients serving in 1990 as two-year-college administrators and with one of the higher proportions of its recent graduates serving in senior administrative positions in two-year colleges, is missing from the Townsend list. This institution should be included in future studies of higher education doctoral programs. Additionally, other institutions in Table 4.9 may represent emerging higher education programs of interest to future researchers.

#### Directions for Future Research

Future research on doctoral education in the community college administrative labor market should include analysis of (a) field-based and off-campus programs as related to program quality and access by administrators who are frequently employed while studying, (b) the degree of and, perhaps, desirability of diversity in the doctoral programs



which prepare individuals within a state, and (c) the current viability of the Dressel and Mayhew (1974) typology.

By investigating other possible employment outcomes of higher education doctoral programs, such as two-year college faculty and state directors of community colleges, a more complete understanding of local, regional, and national orientation of higher education doctoral programs would be possible. Further research on the two-year college administrator with an earned doctorate might well consider whether differences in the individuals who enter the programs, in the content of the programs themselves, or in the nature of the market may account for the differences in local, regional, and national orientation.

When Dressel and Mayhew derived their typology of higher education programs in 1974, most doctoral programs in higher education had begun within the previous decade. Additionally, the growth of the community colleges was a recent phenomenon. As both doctoral programs and the community colleges have matured in the subsequent years, it may be time to reanalyze the nature of higher education doctoral programs in light of current conditions. Such research may shed additional light on the extent to which community colleges are a part of or are distinct from the rest of higher education.

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## **APPENDICES**

## APPENDIX A

### Cover Letter for Initial Mailing

# VIRGINIA TECH

Division of Administrative  
and Educational Services

University City Office Building  
Blacksburg, Virginia 24061-0302

April 17, 1990

Dear Colleague:

Regional employment patterns of today's community college administrators have important implications for doctoral-level education of future leaders. Darrel A. Clowes and Samuel D. Morgan, both Associate Professors in our College of Education, and I are studying these employment patterns to provide a better understanding of education for the community college administrative labor market.

You are one of a carefully selected group of community college administrators being asked to provide information on your doctoral education and the location of your pre- and post-doctoral employment. Your help is needed to ensure that each state and each doctoral-granting institution is represented.

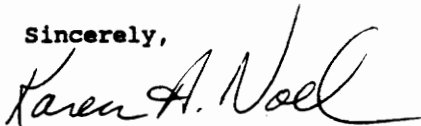
All responses will be treated confidentially. Data will be reported in aggregate form only, and no personal names will be cited. The number included on the questionnaire is needed to categorize responses by type of current position (e.g. academic deans) and to contact you in the event clarification of responses is needed.

Please complete the enclosed questionnaire and return as soon as possible to Doctoral Education Survey, Administrative and Educational Services, College of Education, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0302. For your convenience, a stamped pre-addressed return envelope is enclosed.

I would be most happy to answer any questions you may have. Please write to the address above or call 703 382-0094.

Your response is vital to the completion of this research. Thank you for your cooperation!

Sincerely,



Karen A. Noel  
Project Director

Enclosures

**APPENDIX B**

Questionnaire

**VIRGINIA TECH**

**DOCTORAL EDUCATION AND  
REGIONAL EMPLOYMENT  
PATTERNS:  
A NATIONAL STUDY  
OF TODAY'S TWO-YEAR COLLEGE  
ADMINISTRATORS**



Doctoral Education Study  
Administrative and Educational Services  
College of Education  
Virginia Polytechnic Institute and State University  
217 University City Office Building  
Blacksburg, VA 24061-0302

We are studying doctoral education and regional employment patterns in the careers of two-year college administrators. Honorary doctorates are not included in this study. If you have more than one doctoral degree, please answer these questions for the doctorate most recently earned:

### Your Doctoral Education

Q-1 Which of the following earned doctoral degrees do you hold?  
(Circle one number)

- 1 D.A. (DOCTOR OF ARTS)
- 2 Ed.D. (DOCTOR OF EDUCATION)
- 3 Ph.D. (DOCTOR OF PHILOSOPHY)
- 4 OTHER DOCTORAL-LEVEL DEGREE  
(specify) \_\_\_\_\_

Q-2 What was the major subject field of your doctorate?  
(Circle one number)

- 1 EDUCATION, COMMUNITY COLLEGE OR HIGHER EDUCATION EMPHASIS
- 2 EDUCATION, OTHER EMPHASIS (specify) \_\_\_\_\_
- 3 OTHER DISCIPLINE (specify) \_\_\_\_\_

Q-3 What is the name of the institution which awarded your doctoral degree?  
\_\_\_\_\_

Q-4 In what year was your doctoral degree conferred? 19 \_\_\_\_\_

Q-5 What was your age when you received your doctorate? \_\_\_\_\_ YEARS

### Your Pre-Doctoral Employment

Please indicate your primary employment three months prior to beginning doctoral study:

Q-6 Type of employer (Circle number)

- 1 TWO-YEAR COMMUNITY, TECHNICAL, OR JUNIOR COLLEGE
- 2 FOUR-YEAR COLLEGE OR UNIVERSITY
- 3 ELEMENTARY OR SECONDARY SCHOOL SYSTEM
- 4 OTHER EMPLOYER (specify) \_\_\_\_\_

Q-7 State (Country if outside U.S.) \_\_\_\_\_

Q-8 Your primary work activity three months prior to doctoral study  
(Circle one number)

- 1 RESEARCH AND DEVELOPMENT
- 2 TEACHING
- 3 ADMINISTRATION
- 4 PROFESSIONAL SERVICES TO INDIVIDUALS
- 5 OTHER (specify) \_\_\_\_\_

## Your Post-Doctoral Employment

Please indicate your primary employment three months after completion of your doctorate:

Q-9 Type of employer (Circle number)

- 1 TWO-YEAR COMMUNITY, TECHNICAL, OR JUNIOR COLLEGE
- 2 FOUR-YEAR COLLEGE OR UNIVERSITY
- 3 ELEMENTARY OR SECONDARY SCHOOL SYSTEM
- 4 OTHER EMPLOYER (specify) \_\_\_\_\_

Q-10 State (Country if outside the U.S.) \_\_\_\_\_

Q-11 Your primary work activity three months after completion of your doctorate (Circle one number)

- 1 RESEARCH AND DEVELOPMENT
- 2 TEACHING
- 3 ADMINISTRATION
- 4 PROFESSIONAL SERVICES TO INDIVIDUALS
- 5 OTHER (specify) \_\_\_\_\_

Q-12 Since earning your doctorate, in what states have you been employed for at least 6 months as an administrator in a two-year college? (Begin with your most recent administrative employment.)

YEARS	STATE (COUNTRY IF OUTSIDE THE U.S.)
19__ to 1990	_____
19__ to 19__	_____
19__ to 19__	_____
19__ to 19__	_____
19__ to 19__	_____
19__ to 19__	_____
19__ to 19__	_____
19__ to 19__	_____
19__ to 19__	_____
19__ to 19__	_____

Q-13 About how many more years do you expect to work before retiring? \_\_\_\_\_ YEARS

Please continue on the back page. . .

- Q-14 Is there anything else you would like to tell us about the relationship between doctoral education and the location of pre- or post-doctoral employment in the careers of today's two-year college administrators? If so, please use this space:

### Demographic Information

- Q-15 Your gender (Circle number of your answer)
- 1 MALE
  - 2 FEMALE
- Q-16 Your age \_\_\_\_\_ YEARS
- Q-17 Your race (Circle number)
- 1 AMERICAN INDIAN OR ALASKAN NATVE
  - 2 ASIAN OR PACIFIC ISLANDER
  - 3 BLACK
  - 4 WHITE
- Q-18 Is your ethnic heritage Hispanic? (Circle number)
- 1 NO
  - 2 YES

---

Your contribution to this effort is very much appreciated. Thank you!



**APPENDIX C**

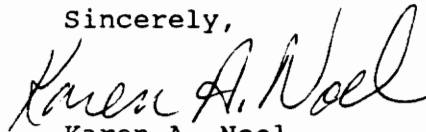
**Follow-up Post Card**

Last week a brief questionnaire for a national study of doctoral education and regional employment patterns of community college administrators was mailed to you.

If you have already completed and returned it, please accept our sincere thanks. If not, please do so today. It is most important that your response be included so that community college administrators from each state are represented.

If by chance your questionnaire did not reach you, or if it is not readily at hand, please call 703 382-0094 and a replacement copy will be sent.

Sincerely,



Karen A. Noel  
Virginia Tech

APPENDIX D

Cover Letter for Second Mailing

VIRGINIA TECH

Division of Administrative  
and Educational Services

University City Office Building  
Blacksburg, Virginia 24061-0302

May 29, 1990

Dear Colleague:

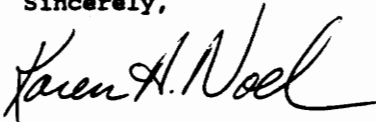
I am writing to you about our national study of two-year college administrators who have earned the doctorate. As of today, we have not yet received your completed questionnaire.

The number of responses received to date is quite encouraging. However, the accurate portrayal of this group of highly educated administrators depends on you and the others who have not yet responded. It is essential that doctoral recipients from each doctoral-granting institution across the country be included. It is also critical that those now employed at private as well as public institutions and those at two-year campuses of four-year colleges and universities be well represented in the responses.

For these reasons, I am sending this replacement copy of the questionnaire along with a stamped return envelope. May I urge you to complete and return it as quickly as possible.

Your contribution to the success of this study will be appreciated greatly.

Sincerely,



Karen A. Noel  
Project Director

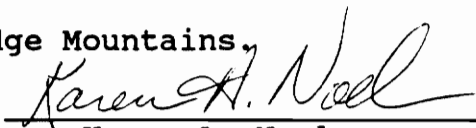
Enclosures

P.S. Many respondents have asked to receive a summary of the results. I'll be happy to send you a copy if you want one. Just write "copy of results requested" on the back of the return envelope. We expect to have them ready to mail this fall.

## VITA

Karen Anne (Warner) Noel was born on March 17, 1947, in Altoona, Pennsylvania. She commuted to the Altoona Campus, then a two-year non-residential campus of The Pennsylvania State University. After transferring to Penn State's University Park campus, she received a Bachelor of Science in Botany with honors in March 1968.

In 1971, she received the Masters degree in Library Service from Rutgers Graduate School of Library Service. Her library career took her into the realm of higher education libraries. Following employment as a reference librarian at the University of Oregon, she began her community college career as Assistant Librarian at Dutchess Community College in Poughkeepsie, New York. After ten years of increasing responsibilities as Head Librarian, Department Head for Learning Resources, and Associate Dean of Instruction at Wilson County Technical College (now Wilson Technical Community College) in North Carolina, she began full-time doctoral study in Community College Education at Virginia Polytechnic Institute and State University. She is currently Director of Institutional Effectiveness and Research at Isothermal Community College in Spindale, North Carolina, where she enjoys hiking in the foothills of the Blue Ridge Mountains.

  
\_\_\_\_\_  
Karen A. Noel