

## “CLONING” IN ACADEME: Mentorship and Academic Careers

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Mentor professors were surveyed with respect to their most successful “protégés” regarding scholarly production, the mentorship role, and their careers. Career stage, network stratification, and weak-tie theories provided the conceptual frameworks. The 62 mentors were highly productive professors who were predominantly both graduates and employees of research universities. Mentors overwhelmingly nominated as their most successful protégés those whose careers were essentially identical to their own—i.e., their “clones.” Women mentors named as most successfully protégés more than twice as many females and males than men did. More productive mentors linked with a greater number of protégés but were less knowledgeable about their personal lives, as Granovetter’s theory would predict. The results also demonstrate the openness of the network within stratified levels.

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Mentorship is widely regarded as an important aspect of the training and career development of young professionals (Spilerman, 1977; Cameron, 1978). Within the academic profession mentorship most often occurs in the informal, but special, sponsorship that a graduate student receives from a senior professor during graduate school. The mentor provides a role model, academic advice, and eventually, assistance in gaining access to the profession. Cameron (1978) found that the career success of young faculty was significantly influenced by the type and quality of the institution in which they found employment and the extent of their collaboration with senior faculty. Moreover, the type and quality of the institution where they found employment was closely tied to the professional contacts and associations of the mentor.

Most of the previous research, however, has examined the issue of mentorship from the vantage of the “protégé,” the benefits and advantages the mentor rela-

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*Research in Higher Education*  
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Vol. 15, No. 4, 1981  
0361-0365/81/080315-13\$01.50

tionship yields to the young professional. Little research has examined the mentor-protégé relationship from the perspective of the mentor. Few studies have examined either the satisfactions to be gained from mentoring or the manner in which mentors exercise their influence. If mentorship were more clearly understood and patterns of influence could be identified, this important role could be more effectively encouraged and utilized.

The present study investigated the mentors' view of the nature and closeness of the mentor-protégé relationship. Specifically, the study examined (1) how this relationship differs depending on the sex of the protégé, (2) mentor satisfaction with mentoring, (3) the scholarly productivity of mentors and the productivity of protégés, and (4) the patterns of influence mentors yield in assisting protégés in finding employment in academe.

The study builds on Cameron's investigation but stands separate from it. She studied 132 faculty at eight universities and asked them to identify their mentor and describe their relationship with that mentor. Her data and findings are from the perspective of the protégé. In the present study, the mentors her subjects mentioned were contacted and asked to complete a questionnaire regarding their experience as mentors. They did not know who had nominated them. In one part of the questionnaire they were asked to list their most successful protégés.

#### THEORETICAL FRAMEWORK

Granovetter's (1973) weak-tie hypothesis guided the questionnaire construction for information on mentor-protégé relationships. According to Granovetter, more information important for scholarly productivity will come from interacting with a large set of people than with a smaller number. In the former case, the links will be looser and relationships will be more on a professional than a personal basis. The latter will have more of a closed network of colleagues and be more likely to know each other more intimately. Blackburn, Behymer, and Hall (1978) supported Granovetter's hypothesis in previous research by showing productivity to be significantly correlated with the number of personal contacts with others on and off campus (especially the latter).

Numerous studies (e.g., Cole and Cole, 1973; Fulton and Trow, 1974) have documented the extent of stratification in United States higher education. Faculty of highly rated research universities are drawn almost exclusively from graduates of their own and peer institutions. Likewise, since government- and foundation-supported projects, external review panels, and the leadership of professional associations are all heavily populated with these same faculty, it is to be expected that informal as well as formal networks will also be stratified and affect interaction between mentor and protégé. Hence this analysis took into account the critical importance of career entry point (Spilerman, 1977) and the openness or closedness of interactions as they relate to place of work within a stratified set of institutions.

**TABLE 1. Protégés and Their Mentors**

| Protégés identified<br>by Cameron (1978) |     |       | Mentors identified by Cameron's protégés |                             |                              |                                 |
|--|-----|-------|--|-----------------------------|------------------------------|---------------------------------|
| Discipline                               | Sex | Total | No.<br>giving<br>name <sup>a</sup>       | No.<br>persons<br>mentioned | Persons<br>per<br>individual | Colleagues<br>per<br>individual |
| English                                  | F   | 26    | 20                                       | 46                          | 2.3                          | 1.4                             |
|  | M   | 25    | 19                                       | 36                          | 1.9                          | 1.1                             |
| Psychology                               | F   | 23    | 20                                       | 55                          | 2.8                          | 2.2                             |
|  | M   | 26    | 24                                       | 68                          | 3.4                          | 1.9                             |
| Sociology                                | F   | 15    | 13                                       | 44                          | 3.4                          | 2.2                             |
|  | M   | 17    | 13                                       | 31                          | 2.4                          | 1.5                             |
| Totals                                   | F   | 64    | 53                                       | 145                         | —                            | —                               |
|  | M   | 68    | 56                                       | 135                         | —                            | —                               |
|  | F+M | 132   | 100                                      | 280                         | 2.6                          | 1.7                             |

<sup>a</sup>Numbers in this column are the total number for the discipline and gender minus the number who did not name specific individual either by saying they had many mentors or by not answering the question. They, then, are the people who generated the list of mentors.

**METHODOLOGY**

**Sample**

The characteristics of Cameron's original sample are reported in Table 1 by discipline and sex. [By the classification of the institution (Carnegie Council, 1976) in which they were currently employed, 39% are at research universities I, 17% at research universities II, and 43 percent at comprehensive universities.] With an adjustment for the duplication where a mentor was listed by more than one protégé, 169 different individuals were identified. Of these, addresses for 133 could be located. The professional association listing frequently had out-of-date addresses. Death eliminated others. Sixty-two useable returns were received for a response rate of 46.6 percent.<sup>1</sup> There is no claim that the mentors constitute a random sample. Rather, these individuals were chosen because they were special in the lives of Cameron's faculty.

With no information about the nonrespondents, it is difficult to estimate the biases in the returns. However, as Table 2 indicates, the mentors responding are in almost exact proportion to the protégés by discipline. One intentional bias exists. Cameron's study purposely involved a roughly equal number of male and female faculty, a substantially higher percentage of women than are represented on college and university faculties. Hence the number of mentors named by women is much higher than the proportion of women on university faculties.

**TABLE 2. Protégés and the Mentor Respondents.**

| Protégés identified by Cameron (1978) |     |       | Mentors identified by Cameron's Protégés who participated in the present study <sup>a</sup> |         |                |     |                                 |                                |
|---------------------------------------|-----|-------|---|---------|----------------|-----|---------------------------------|--------------------------------|
| Discipline                            | Sex | Total | No. giving name <sup>b</sup>  | Mentors |                |     | Protégé proportion <sup>d</sup> | Mentor proportion <sup>e</sup> |
|                                       |     |       |   | F       | M <sup>c</sup> | F+M |                                 |                                |
| English                               | F   | 26    | 20  | 2       | 15             | 21  | .35                             | .39                            |
|                                       | M   | 25    | 19  | 0       | 4              |     |                                 |                                |
| Psychology                            | F   | 23    | 20  | 2       | 12             |     | .43                             | .37                            |
|                                       | M   | 26    | 24  | 1       | 11             | 26  |                                 |                                |
| Sociology                             | F   | 15    | 13  | 0       | 6              |     | .22                             | .24                            |
|                                       | M   | 17    | 13  | 1       | 6              | 13  |                                 |                                |
| Total                                 | F   | 64    | 53  | 4       | 33             |     | 1.00                            | 1.00                           |
|                                       | M   | 68    | 56  | 2       | 21             |     |                                 |                                |
|                                       | F+M | 132   | 109   | 6       | 54             | 60  |                                 |                                |

<sup>a</sup>These mentors are a subsample of the designated mentors from Table 1.

<sup>b</sup>Numbers in this column are the total number for the discipline and gender minus the number who did not name specific individuals either by saying they had many mentors or by not answering the question. They, then, are the people who generated the list of mentors.

<sup>c</sup>Includes two duplicates and two triplicates (i.e., mentors mentioned by two or three mentees). Net result is 50 different male mentors.

<sup>d</sup>Ratio of protégés in a discipline to total protégés. (e.g., there are 51 of 132 protégés in English, or .39.)

<sup>e</sup>Ratio of mentor respondents in a discipline to total mentor respondents (e.g., there are 21 of 60 mentors in English, or .35).

### Instrumentation

The mentor questionnaire obtained information on their role as dissertation chairperson (completion rate—actual as compared to information from departmental colleagues), resulting coauthored publications, satisfaction with mentoring and with chairing dissertations, the names of their most professionally successful protégés, knowledge about the personal lives of their protégés, the frequency and nature of the contact maintained with these protégés, and their own professional history [schooling, place(s) of work, and productivity]. The first two (of three) sections were self-reported information. They can be expected to have a high degree of validity. Blackburn and Trowbridge (1973) found almost perfect agreement between faculty self-reports of dissertations chaired and institutional records. The demographic and publication data were taken from vitas which respondents enclosed (by our request) and also can be expected to have a high degree of accuracy.

## Analysis

The Carnegie Council (1976) institutional classification system was used in the network analysis and in the examination of the extent to which college and university stratification affects career development. The measure of research productivity was a weighted measure of books and articles completed in the last 3 years (a book was given the value of three articles).<sup>2</sup> Descriptive statistics (frequencies, percentages) were used in this initial exploration of a phenomenon. The intercorrelations among rated variables were computed using Pearson correlation coefficients.

### Descriptive Characteristics of the Mentors

Even though half of the faculty nominating mentors were women, the mentors nominated were overwhelmingly men (90%). (See Table 1 above.) Whether the women preferred male mentors or not, most would have had little choice or chance for a female dissertation chair. The mentors, for the most part, are employed at leading research universities. These are the very institutions that have had the lowest percentage of women holding faculty rank, typically less than 10 percent (Rossi, 1970).

Mentors reported that an average of 3.76 students (ranging from none to 15) completed dissertations with them over the last 3 years. Ninety-one percent reported that the role of chairing dissertations was either very satisfying (49%) or moderately satisfying (41%). None regarded it as a burden. At the same time, nearly 80 percent of the mentors reported that chairing a dissertation hardly ever led to a coauthored publication. Only 6.8 percent said it nearly always or frequently did.

As for the mentorship role, these mentors estimated that, over the course of their career, they had sponsored an average of 27.39 students. Ninety-one percent of the mentors regarded the mentoring experience as very (57.9%) or moderately (33.3%) satisfying. Again, none regarded it as a burden.

In terms of scholarly productivity, 47 percent of these mentors believed that, compared to departmental colleagues, they engaged in writing and/or research appreciably (21.7%) or somewhat (25.0%) more often. Thirty percent reported a frequency somewhat or appreciably less than that of their colleagues. The actual number of scholarly articles the mentors reported having published in the last 3 years averaged 5.29 ( $SD = 6.95$ ; range = 40). Of these, an average of 1.85 ( $SD = 3.80$ ; range = 25) were coauthored. Additionally, they reported publishing an average of .90 ( $SD = 1.18$ ; range = 5) books, of which an average of .48 ( $SD = .84$ ; range = 3) were coauthored. Asked about how collaboration usually began, 43.5 percent of the mentors indicated they were most often the initiators, another

37.1 percent said the initiation was about equally divided between themselves and their coauthors.

This distinguished set of mentors, then, are an active group in many facets of their careers.

## FINDINGS

### Mentor/Protégé Relationships: Stratification by Institutional Type

Seventy-six percent of the mentors in this study graduated from research universities I. Another 20 percent graduated from research university II. Eighty-one percent of these mentors are on the faculties of this exclusive set of universities. Since these research universities graduate the vast majority of PhDs in this country but employ only a small percent of the faculty, most graduates necessarily work at other types of colleges and universities (or in other kinds of organizations).

Not only did those designated as mentors graduate from major research universities and then become employed in that same type of university, but those whom they designated as their most successful protégé are also employed at these universities (Table 3). Two-thirds to three-fourths of these protégés are at research universities I and II. This is true for mentors' first, second, and third most successful protégés.

An even finer stratification can be seen operating in Table 3. Mentors at research universities I most frequently select as most successful those protégés who are employed at research universities I. Mentors at research universities II most frequently name those at research universities II. Those from other locations (principally government and research laboratories) name those at research universities, more at I than II. It appears that a mentor's most successful protégés are those at institutions just like the mentor's. Put another way, those who are regarded as most successful are those who replicate the mentor's experience. They are, in essence, the mentor's "clones."

Twenty-four percent of the faculty who originally nominated these mentors were working at comprehensive universities I. Only 4 percent of the mentors' most successful protégés were working at these institutions. This explains, in part, why the rate of reciprocation (mutual nominations) in the naming of mentor or protégé was only about 5 percent (see Table 3).

The nominating protégés were on the faculty at eight midwestern regional and research universities (see above). The mentors they designated that compose this sample are geographically distributed across the United States. The mentors' most successful protégés increase the geographic dispersion and the number of institutions represented. Starting from a restricted source, the number of institutions included increased rapidly. However, the connections were overwhelmingly between universities of the same type, with only occasional linkages across institutional types. The system, then, is highly stratified.

**TABLE 3. Mentors and Most Successful Protégés by Place of Current Employment (Number of Protégés).**

| Protégés employed at                                      | Mentor employed at <sup>a</sup> |     |     |       |                             |                             |                             |
|---|---------------------------------|-----|-----|-------|-----------------------------|-----------------------------|-----------------------------|
|   | 1st <sup>b</sup>                | 2nd | 3rd | Total | % <sup>c</sup> <sub>1</sub> | % <sup>d</sup> <sub>2</sub> | % <sup>e</sup> <sub>3</sub> |
| <i>Research Universities I</i>                            |                                 |     |     |       |                             |                             |                             |
| Research universities I                                   | 16                              | 17  | 13  | 46    | 27                          | 45                          | 52                          |
| Research universities II                                  | 8                               | 0   | 7   | 21    | 12                          | 21                          | 24                          |
| Total: RU I and II  | 24                              | 23  | 20  | 67    | 39                          | 66                          | 76                          |
| Doctoral granting universities I                          | 3                               | 3   | 2   | 8     | 5                           | 8                           | 9                           |
| Doctoral granting universities II                         | 0                               | 2   | 0   | 2     | 1                           | 2                           | 2                           |
| Comprehensive universities I                              | 3                               | 0   | 6   | 9     | 5                           | 9                           | 10                          |
| Comprehensive universities II                             | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Liberal arts colleges I                                   | 1                               | 1   | 1   | 3     | 2                           | 3                           | 3                           |
| Liberal arts colleges II                                  | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Junior colleges, community colleges, technical institutes | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Foreign institutions                                      | 1                               | 2   | 0   | 3     | 2                           | 3                           | 3                           |
| Other (e.g., government)                                  | 2                               | 0   | 8   | 10    | 6                           | 10                          | 11                          |
| Total 1   | 34                              | 34  | 34  | 102   | 60                          | 101 <sup>f</sup>            | —                           |
| Total 2   | 31                              | 32  | 26  | 89    | 57                          | —                           | 100                         |
| <i>Research Universities II</i>                           |                                 |     |     |       |                             |                             |                             |
| Research universities I                                   | 2                               | 3   | 3   | 8     | 5                           | 22                          | 23                          |
| Research universities II                                  | 7                               | 4   | 2   | 13    | 8                           | 36                          | 37                          |
| Total: RU I and II  | 9                               | 7   | 5   | 21    | 13                          | 58                          | 60                          |
| Doctoral granting universities I                          | 1                               | 4   | 2   | 7     | 4                           | 19                          | 20                          |
| Doctoral granting universities II                         | 0                               | 1   | 1   | 2     | 1                           | 6                           | 6                           |
| Comprehensive universities I                              | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Comprehensive universities II                             | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Liberal arts colleges I                                   | 1                               | 0   | 1   | 2     | 1                           | 6                           | 6                           |
| Liberal arts colleges II                                  | 0                               | 0   | 1   | 1     | 1                           | 3                           | 3                           |
| Junior colleges, community colleges, technical institutes | 1                               | 0   | 1   | 2     | 6                           | 6                           | 0                           |
| Foreign institutions                                      | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Other (e.g., government)                                  | 0                               | 0   | 1   | 1     | 1                           | 3                           | 3                           |
| Total 1   | 12                              | 12  | 12  | 36    | 21                          | 101                         | —                           |
| Total 2   | 12                              | 12  | 11  | 35    | 22                          | —                           | 104                         |
| <i>All Other Institutions</i>                             |                                 |     |     |       |                             |                             |                             |
| Research universities I                                   | 7                               | 7   | 4   | 18    | 11                          | 55                          | 55                          |
| Research universities II                                  | 3                               | 2   | 1   | 6     | 4                           | 18                          | 18                          |

TABLE 3 (Continued).

| Protégés Employed At                                      | Mentor employed at <sup>a</sup> |     |     |       |                             |                             |                             |
|---|---------------------------------|-----|-----|-------|-----------------------------|-----------------------------|-----------------------------|
|   | 1st <sup>b</sup>                | 2nd | 3rd | Total | % <sub>1</sub> <sup>c</sup> | % <sub>2</sub> <sup>d</sup> | % <sub>3</sub> <sup>e</sup> |
| Total: RU I and II  | 10                              | 9   | 5   | 24    | 15                          | 73                          | 73                          |
| Doctoral granting universities I                          | 0                               | 2   | 4   | 6     | 4                           | 18                          | 18                          |
| Doctoral granting universities II                         | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Comprehensive universities I                              | 1                               | 0   | 2   | 3     | 2                           | 9                           | 9                           |
| Comprehensive universities II                             | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Liberal arts colleges I                                   | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Liberal arts colleges II                                  | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Junior colleges, community colleges, technical institutes | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Foreign institutions                                      | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Other (e.g., government)                                  | 0                               | 0   | 0   | 0     | 0                           | 0                           | 0                           |
| Total 1   | 11                              | 11  | 11  | 33    | 19                          | 100                         | 171                         |
| Total 2   | 11                              | 11  | 11  | 33    | 19                          |                             | 100                         |

  

| Protégés employed at                                      | Totals   |                |                |
|---|----------|----------------|----------------|
|   | <i>N</i> | % <sub>1</sub> | % <sub>3</sub> |
| Research universities I                                   | 72       | 42             | 46             |
| Research universities II                                  | 40       | 23             | 25             |
| Total: RU I and II  | 112      | 65             | 71             |
| Doctoral granting universities I                          | 21       | 12             | 13             |
| Doctoral granting universities II                         | 4        | 2              | 3              |
| Comprehensive universities I                              | 12       | 7              | 8              |
| Comprehensive universities II                             | 0        | 0              | 0              |
| Liberal arts colleges I                                   | 5        | 3              | 3              |
| Liberal arts colleges II                                  | 1        | 1              | 1              |
| Junior colleges, community colleges, technical institutes | 2        | 1              | 1              |
| Foreign institutions                                      | 3        | 2              | —              |
| Other (e.g., government)                                  | 11       | 6              | —              |
| Total 1   | 171      | 101            | 100            |
| Total 2   | —        | —              | 157            |

<sup>a</sup>The mentor and protégé *N* vary slightly in Tables 1, 2, and 3 because of incomplete data from some respondents.

<sup>b</sup>“1st” is the first person named by the mentor as a successful protégé; similarly for “2nd” and “3rd.”

<sup>c</sup>%<sub>1</sub> = Percentage of total number of first three successful protégés mentors name ( $x/171$ ) [e.g.,  $(46/171) \times 100$ ].

<sup>d</sup>%<sub>2</sub> = Percentage of cases in the category where mentor is employed [e.g., at research universities I, there are 102 protégés mentioned; 46 of the 102 (45%) are at research universities I].



**TABLE 3 (Continued).**

\*%<sub>3</sub> = Same as %<sub>1</sub>, only "Foreign" and "Other" are eliminated and only protégés at colleges and universities are counted [46 of the 89 (52%) are at research universities I].  
 †Rounding errors may produce totals different from 100%.

There appear to be other consequences of this stratification as well. Graduates who have taken positions at other types of institutions (doctoral granting institutions, liberal arts colleges—even the most distinguished liberal arts I—and community colleges) are for all intents and purposes excluded from the scholarly network. Where the graduate academic works makes a significant difference in influencing scholarly output (Long, 1978). Not only do faculty in the most highly ranked departments have a higher rate of productivity than their peers elsewhere, their productivity would have been less had they been elsewhere earlier and it will decrease later if they move to lower-rated units. No doubt one's pedigree is important in obtaining a minimal appointment in a productive environment. There it is critical (see Crane, 1965). The implications of this stratified social system are discussed in the final section.

### Sex Patterns

Since there were only six women mentors in the sample, questions of representativeness dictate that these findings be viewed with caution. Nonetheless, several patterns related to sex differences in mentorship can be discerned. The male mentors in this study seem unusually predisposed to sponsor women graduate students. Male mentors named 13.9 percent of the women who had originally named them as critical to their (the womens') career success. However, only 3.5 percent of the male protégés were, in turn, listed as "most successful protégé" by the mentor they had originally identified. (Women mentors reciprocated equally for men and women protégés, listing a protégé who had also listed them 1 out of 22 times, a rate of 4.5 percent. See Table 4.)

Of the protégés in Cameron's study who said they had a mentor, 72 percent mentioned the person who had served as their dissertation chairperson (Table 1). Of the dissertation chairpersons mentioned, 92 percent are male. But of the male mentors' nominees for "most successful protégés," 24 percent are women. The proportion of women in the larger population of professors is only 7 percent. The male mentors in the present study have sponsored women out of proportion to the presence of women in the population. These results suggest, then, that mentors identified by women protégés tend to sponsor a disproportionate number of women. A select group of senior faculty appear to be singled out by women as particularly helpful and/or particularly supportive.

Another sex-related observation regards the interaction pattern of the women protégés. Table 1 shows that women report having more interactions with col-

TABLE 4. Mentors and Their Designated Protégés

|   | Females | Males           |
|---|---------|-----------------|
| <b>Mentors</b>                          |         |                 |
| Total mentors                           | 6       | 50 <sup>a</sup> |
| <i>N</i> giving names                   | 5       | 47              |
| <i>Protégés Not Mentioned by Mentor</i> |         |                 |
| <b>Women</b>                            |         |                 |
| <i>N</i>                                | 21      | 31              |
| % <sub>1</sub> <sup>c</sup>             | 44.7    | 18.1            |
| % <sub>2</sub> <sup>d</sup>             | 47.7    | 20.4            |
| <b>Men</b>                              |         |                 |
| <i>N</i>                                | 21      | 110             |
| % <sub>1</sub>                          | 44.7    | 65.5            |
| % <sub>2</sub>                          | 47.7    | 73.7            |
| <b>DK<sup>b</sup></b>                   |         |                 |
| <i>N</i>                                | 3       | 19              |
| % <sub>1</sub>                          | 6.4     | 11.1            |
| <i>Protégés Mentioned by Mentor</i>     |         |                 |
| <b>Women</b>                            |         |                 |
| <i>N</i>                                | 1       | 5               |
| % <sub>1</sub>                          | 2.1     | 2.9             |
| % <sub>2</sub>                          | 2.3     | 3.3             |
| <b>Men</b>                              |         |                 |
| <i>N</i>                                | 1       | 4               |
| % <sub>1</sub>                          | 2.1     | 2.3             |
| % <sub>2</sub>                          | 2.3     | 2.6             |
| <b>DK</b>                               |         |                 |
| <i>N</i>                                | 0       | 0               |
| % <sub>1</sub>                          | .0      | .0              |
| <b>No answer or no names</b>            |         |                 |
|   | 1       | 3               |
| <b>Totals</b>                           |         |                 |
| % <sub>1</sub>                          | 100.0   | 99.9            |
| % <sub>2</sub>                          | 100.0   | 100.0           |
| Total mention <i>N</i>                  | 47      | 171             |
| Protégés per mentor                     | 7.8     | 3.6             |

<sup>a</sup>The 54 of Table 3 reduces to 50 because of duplicate nominations. See Table 2, footnote c.

<sup>b</sup>DK = Do not know sex of person.

<sup>c</sup>%<sub>1</sub> = Percentage of total *N*.

<sup>d</sup>%<sub>2</sub> = Percentage with DKs subtracted out.

leagues than do their male counterparts. That is true in each discipline—1.4 versus 1.1 contacts in English, 2.2 versus 1.9 contacts in psychology, and 2.2 versus 1.5 contacts in sociology—the social sciences being the more interactive. Women protégés interact with both men and women; men interact almost exclusively with men.<sup>3</sup>

In the present study, the correlation between the mentors' scholarly productivity was inversely correlated with the extent of their knowledge of their protégés' personal lives ( $r = 0.26$ ;  $p < .05$ ). In addition, only 5-6 percent of the mentors named protégés who had nominated them. (Recall that mentors had sponsored nearly 30 persons.) This clearly suggests an open rather than a closed network in operation. That is, productive people link with many different persons, as predicted by Granovetter.

#### Satisfaction with Mentoring: Professional Versus Personal

The expectation that high PhD producers would derive more professional than personal satisfactions from the mentoring role was not substantiated by the evidence. When asked to list the types of satisfactions and pleasures they received from mentoring, mentors gave both kinds of responses (e.g., the production of new knowledge, the opportunity to work with students). The data yielded no significant correlation between scholarly output and satisfaction.

This finding is in accord with an earlier one by Blackburn and Trowbridge (1973) in which high and low PhD producers were not distinguishable from one another on their teaching ability, personal availability, and a number of other professional and personal attributes.

#### The Mentor's Scholarly Productivity

A mentor's scholarly productivity is significantly correlated with the comparative frequency with which a dissertation leads to coauthored article ( $r = .33$ ;  $p < .02$ ) and the degree of collaboration in research and writing with others ( $r = .45$ ;  $p < .001$ ), although not necessarily with protégés. However, a mentor's productivity is not significantly related to satisfaction either with chairing dissertations ( $r = 0.0$ ) or with mentoring ( $r = -.09$ ) itself. As in many studies on professorial satisfaction (see, e.g., Cares and Blackburn, 1978), this variable remains elusive.

## DISCUSSION

The evidence suggests that the mentor-protégé relationship is a symbiotic partnership. The stature and accomplishments of the mentor are important to both the academic productivity and advancement of the protégé. At the same time, to be

seen as a successful protégé by a distinguished mentor implies following a career path very much like that of the mentor.

The results suggest a somewhat vicious circle. To secure a job at a major university, a candidate needs sponsorship. Given the tightening job market in higher education (particularly at research universities), the importance of the mentor's influence in job placement is heightened. If, however, the job candidate does not obtain a position at a high-status university but instead goes to a lesser ranked college or university, he or she then seems to fall outside the mentor's range of interest. The likelihood of a continued productive relationship with the mentor is dramatically reduced. These protégés are outside the fold.

The preferred treatment of, and attention to, protégés who follow the career paths of their mentors may serve, at some level, to justify the mentors' own career decisions. On the other hand, from the mentor's point of view, placement of protégés at research universities seems to be a necessary condition for maintaining a network of influence at that type of university. Additionally, successful placement of protégés at highly rated universities would yield colleagues who operate within a similar value system (e.g., importance of research) and who are apt to be more interested and available as coauthors.

The findings support the theoretical conceptions which guided the inquiry, namely, Granovetter on weak ties and networks, Cole and Cole on stratification in United States colleges and universities, and Long on the importance of workplace environment. The findings may also contribute to emerging models of adult development. Mentorship has been recognized as an important aspect of career development in several fields (Spilerman, 1977). This study offers additional insight into the role of mentorship in the academic life and career cycle (Blackburn and Havighurst, 1979).

## CONCLUSION

This study has highlighted the importance of a mentor in the job placement and career development of a protégé, while at the same time it has demonstrated a linkage system which operates within but not across stratified levels. At the same time, it identifies a set of questions about mentoring that deserve further inquiry. For example, what are the attributes of successful mentors? (Of special interest are male mentors who have a disproportionate number of successful women protégés.) It appears that mentorship offers positive rewards to both mentor and protégé. The former have found it a satisfying role, and many of the protégés have productive and successful careers. It may be important, then, to identify institutional policies or behaviors that foster productive mentorship relationships. These issues await further research.

## NOTES

1. This is a minimum percent. Information suggests more potential respondents had died than we

- could determine or that address changes made delivery of the questionnaire highly unlikely.
2. Relative weights assigned to scholarly publications are arbitrary, of course. (See, e.g., Stallings and Singhal, 1970). The aim was to facilitate comparisons across disciplines when it is known that faculty in English produce fewer total publications than social scientists do but are more likely to publish books than articles.
  3. Women name their husbands as advancers of their career, but not vice versa. Data indicate that, while fewer women than male academics are married (60 versus 90%), the woman's spouse is much more likely to be a professional (over 60% to less than 15%), frequently a professor. The difference in family support for men and women needs to be examined in relationship to careers.

## ACKNOWLEDGMENTS

A grant from the Center for Continuing Education for Women (CEW) at The University of Michigan covered the questionnaire printing and mailing costs and is gratefully acknowledged. We also thank Jim Sullivan for his assistance in coding some of the data.

## REFERENCES

- Blackburn, R. T., and Trowbridge, K. W. Faculty accountability and faculty workload: A preliminary cost analysis of their relationship as revealed by Ph.D. productivity. *Research in Higher Education*, 1973, 1, 1-12.
- Blackburn, R. T., Behymer, C. E., and Hall, E. Research Note: Correlates of faculty publications. *Sociology of Education*, 1978, 51 (April), 132-141.
- Blackburn, R. T., and Havighurst, R. J. Career patterns of U.S. male academic social scientists. *Higher Education*, 1979, 8, 553-572.
- Cameron, S. M. Women in academia: Faculty sponsorship, informal structures, and career success. Paper presented at annual AERA Meetings, Toronto, Canada, March 1978.
- Cares, R. C., and Blackburn, R. T. Faculty self-actualization: Factors affecting career success. *Research in Higher Education*, 1978, 9, 123-136.
- Carnegie Council. *A Classification of Institutions of Higher Education*. Berkeley, California: Carnegie Council on Policy Studies in Higher Education, 1976.
- Cole, J. R., and Cole, S. *Social Stratification in Science*. Chicago: University of Chicago Press, 1973.
- Crane, D. Scientists at major and minor universities: A study of productivity and recognition. *American Sociological Review*, 1965, 30, (October), 699-714.
- Fulton, O., and Trow, M. Research activity in American higher education. *Sociology of Education*, 1974, 47 (Winter), 29-73.
- Granovetter, M. The strength of weak ties. *American Journal of Sociology*, 1973, 78, 1360-1380.
- Long, J. S. Productivity and academic position in the scientific career. *American Sociological Review*, 1978, 43 (December), 889-908.
- Rossi, A. S. Status of women in graduate departments of sociology, 1968-79. *American Sociologist*, 1970, 5 (February), 1-12.
- Spilerman, S. Careers, labor market structure, and socio-economic achievement. *American Journal of Sociology*, 1977, 83(3), 551-593.
- Stallings, W. H., and Singhal, S. Some observations on the relationship between research productivity and student evaluations of courses and teaching. *American Sociologist*, 1970, 5, 141-143.

Received May 5, 1980.