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# Training Sociologists: Professional Socialization and the Emergence of Career Aspirations

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# ARTICLES

## TRAINING SOCIOLOGISTS: AN ASSESSMENT OF PROFESSIONAL SOCIALIZATION AND THE EMERGENCE OF CAREER ASPIRATIONS*

*The individual and departmental factors affecting graduate students' professional socialization were studied by employing data from 309 PhD students in 16 graduate programs in sociology. Using Rosenbaum's tournament model of opportunity structures and aspects of Tinto's model of social psychological integration, this study examines students' access to initial funding, resources in the department, indicators of prior ability, current professional activities, mentoring processes, and social psychological factors for their effects on socialization into the academic profession. Access to initial funding and to mentoring have substantial effects on PhD students' professional socialization, but prove to be less than rational processes in the graduate program. This socialization process is found to be based more on particularistic than on universalistic criteria in the allocation of departmental resources and mentoring. Implications for graduate student mentoring, funding, and divergent career paths are highlighted.*

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PROFESSIONAL SOCIALIZATION OF PROSPECTIVE members is an important aspect of all academic disciplines. Without such socialization, the maintenance of a discipline is jeopardized. University graduate departments customarily establish programs to pass on the traditional canons of the discipline. In this manner, recruits are socialized and acquire professional aspirations and identities that will help them to succeed.

The professional socialization of recruits is often informal and rests on implicit knowledge. As Robert Merton ([1949] 1968:439) noted, the recruit continuously passes through "a sequence of statuses and associated roles" in which each phase is quite similar to that which preceded it. Although formal educational training is one component of the socialization process, recruits who internalize the implicit values and norms associated with their professional reference group attain the desired status more frequently than their counterparts who do not do so (Stouffer et al. 1949). Merton referred to this process as *anticipatory socialization.*

Merton's discussion is based on the assumption that opportunities to engage in informal aspects of the program follow well-defined patterns of social organization. Although these patterns are applied to all members (Parsons and Shils 1951:76–91), recruits who aspire to careers in the discipline are more likely to anticipate the importance of the associated informal values and norms than are persons with more diverse occupational interests. Consequently, students oriented to careers in the discipline would be expected to cultivate mentoring relationships and to participate regularly in the professional activities of the discipline.

To what extent can such well-defined patterns of professional socialization be identified in the training of future sociologists? What is the potential impact of such factors on the formation of career aspirations? This paper examines the rationality of the process through which recruits are socialized professionally into the discipline. We employ Weber's meaning of the term *rationality* to represent a systematic arrangement of rules and procedures, legitimated by an organization and followed as a matter of course (Gerth and Mills 1953:293–96). In this context, students' opportunities to demonstrate abilities in an academic program should follow rational, normative patterns based on a standard set of universalistic criteria, applied uniformly to all students. We focus here on whether ability, as one universalistic criterion, is an intervening factor in one's orientation toward the discipline or whether it is confounded with particu-

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laristic criteria such as sex, race, age, and social class.

## TOWARD A CONCEPTUAL MODEL OF PROFESSIONAL SOCIALIZATION

Success in graduate programs will vary according to how the researcher operationalizes professional socialization. The literature suggests the presence of three models: human capital, social support, and the tournament. Each model emphasizes particular factors that operate through a professional socialization process somewhat distinct from the others.

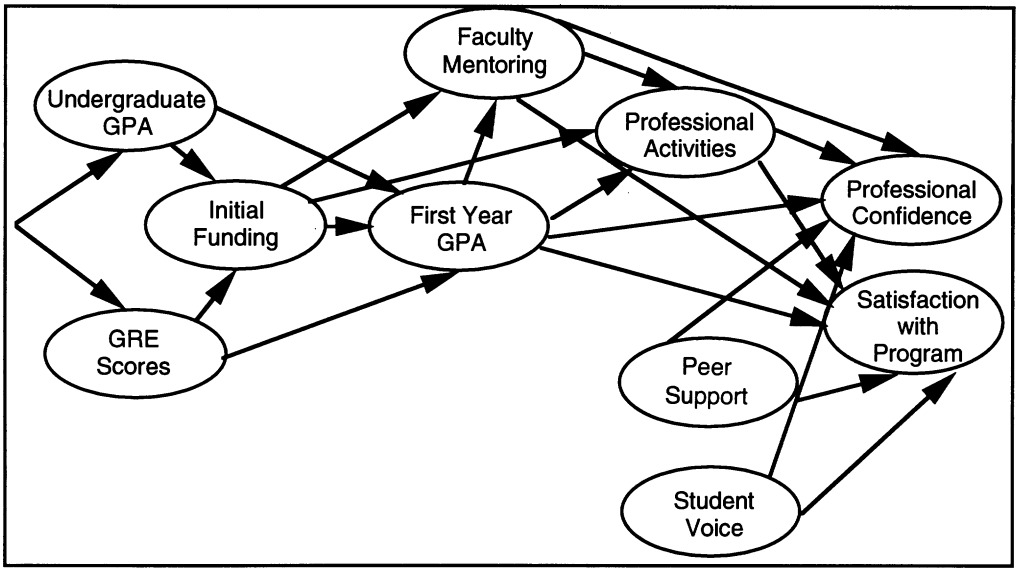
From a human capital perspective, the professional socialization process is often reduced to associations between individual ability and success. The traditional meritocratic emphasis placed on ability as a predictor of success in graduate school assumes that demonstrated individual ability, as measured in the form of standardized test scores and grade point averages, provides universalistic criteria which operate uniformly across educational organizations (see, e.g., Parsons 1959). This assumption, although ignoring gender, race, and social class biases in the curriculum (Apple 1986) and cultural biases in the construction of standardized tests (Levine and Havighurst 1989), would lead one to expect that higher GRE scores and undergraduate grade point averages would be associated with greater levels of success in graduate school. Many studies, however, have examined the effects of GRE scores on admission to graduate programs and on students' first-year grades (using the latter two variables as measures of success); the evidence suggests that GRE scores are, at best, modest predictors of first-year grades (Dawes 1975; Dejnozka and Smiley 1983; Millimet and Flume 1982; Milner, McNeil, and King 1984; Willingham 1974).

Applying the work of Tinto (1975, 1987) to graduate students, Girves and Wemmerus (1988) outline a social support model. They suggest that students' individual ability (demonstrated undergraduate performance) and psychological orientation (perceptions of their relationship with faculty members) operate together to influence their progress toward a degree. Moreover, these authors argue that initial financial support contributes to that progress by establishing additional bonds to the department (also see Melaney 1987). These factors enhance students' integration into a department and increase their commitment to the program, thereby reducing the likelihood of premature voluntary departure. In this model, professional commitment, as an aspect of anticipatory socialization, is viewed as a combination of psychological attributes (satisfaction with the department rather than feelings of alienation) and individual performances (graduate grades and professional activities that include presentation and publication of scholarly works as well as the submission of fellowship and grant proposals).

The model proposed by Girves and Wemmerus can be improved when examined in conjunction with Rosenbaum's (1986) discussion of status opportunities. Rosenbaum proposes a tournament model that conceptualizes individual ability as an outcome of both demonstrated performance and structural opportunities. He suggests that ability is synonymous with an opportunity to perform a task; the outcome of this performance is then evaluated by members of the organization. Individuals acquire *ability statuses* from the successful performance of a given opportunity. Rosenbaum contends that students do not have unlimited opportunities to obtain ability statuses, as might be expected from Turner's (1960) discussion of a contest system. Instead, opportunities to demonstrate ability occur within a critical period, during which time the organization may identify a student's ability and decide whether additional opportunities will be provided.

In concert with Rosenbaum's ability formation argument, mentoring, as a structured opportunity, is expected to be a function of demonstrated ability at critical junctures early in the program. Previous research found that mentoring is a key factor in graduate students' professional development. In particular, the amount of contact between students and faculty members (Pease 1967; Weiss 1981) and students' perceived relationship with faculty mentors (Pease 1967) enhance recruits' professional productivity. Similarly, both the frequency

Figure 1. A Model of Professional Socialization




of contact with a faculty mentor and the nature of the relationship are found to enhance recruits' professional confidence (Gottlieb 1961; Hunnington 1957; Pavalko and Holley 1974; Weiss 1981).

The model of graduate student socialization presented in Figure 1 incorporates both the human capital and social psychological argument of Girves and Wemmerus (1988) and Rosenbaum's (1986) structural interpretation of ability formation. Individual characteristics such as undergraduate abilities and first-year graduate grades are expected to affect the socialization process, but only *during a critical period* early in a student's graduate program. Structured opportunities such as initial funding and access to mentoring serve as rewards for anticipated or demonstrated abilities that are considered important for the professional socialization process. Recruits with better undergraduate performances and higher first-year grades are more likely to receive initial funding, access to mentoring by the faculty, and greater opportunities to become professionally active during the year of their respective programs. Various social psychological factors, including professional confidence, peer support, satisfaction with the department, and the degree to which graduate students perceive themselves as having a voice in departmental affairs, are believed to mediate the effects of initial and first-year abilities on career aspirations.

We extend the model of professional socialization outlined in Figure 1 to identify which of the human capital, social psychological, and structural factors are most important in shaping career aspirations. We examine six distinct career paths, including those in which students express preference for faculty appointments at departments that respectively offer the PhD, the MA, the BA, or the associate as the highest degree. The remaining two job categories are employment in a governmental agency and in the private sector. By examining employment orientations in this way, we also can assess the potential effects of gender, race, and class attributes on career aspirations after accounting for demonstrated abilities, support, and structural opportunities.

## METHODS

### SAMPLE

The data are derived from a sample of sociology graduate departments in the United States. We chose departments from a random selection of graduate programs listed in the 1988 *Guide to Graduate Departments*, published by the American Sociological Association (1988). Graduate advisors at 40 schools were contacted initially; 26 eventu-

ally responded. Sixteen of these departments granted the PhD degree; the other 10 offered a terminal MA.

We asked each graduate advisor to forward a complete list of students currently associated with their department. We then attempted to contact every student listed. In all, 939 students received a questionnaire and 566 returned completed questionnaires, for an overall return rate of 60.3 percent. This response rate is considered good by several notable survey methodologists (Babbie 1992; Dillman 1978). Because we expected the career aspirations and professional socialization of persons pursuing the PhD to differ greatly from those of persons seeking terminal master's degrees, this paper focuses only on students currently working on a PhD. Of the 566 respondents, 316 (56%) met this criterion. Seven students provided only partial information and thus were dropped from the analysis, leaving a total of 309 respondents.

Our sample represents both type of college (private versus public graduate departments) and prestige level. The prestige ranking of the PhD programs in this study ranges from high to below average according to prestige measures published by the Conference Board of Associated Research Councils (1982). On the basis of raw scores provided by the Conference Board's rankings, high prestige scores reflect scores ranging between 4 and 5; above-average scores range between 3 and 3.99; average scores fall between 2 and 2.99; and below-average scores are 1.99 or below. This sample contains three high-prestige departments, three with above-average prestige, four with average prestige rankings, two with below-average prestige rankings, and four that were not rated by the Conference Board. This distribution is consistent with sociology graduate programs overall. The 1988 *Guide to Graduate Departments* identified 117 schools as offering PhD degrees in sociology: 9.4 percent of these were ranked high, 17.1 percent above-average rank, 24.7 percent average, and 27 percent below average. The remaining 21 percent were not rated.

Some differences exist between our sample and that of the total. In comparison with students in the 117 programs, our sample slightly overrepresents students from highly rated and above-average programs while slightly under representing students from schools with below-average ratings and those not rated by the Conference Board. To correct for these differences, we applied weights to produce responses more consistent with the actual population.

Of the 16 PhD-granting sociology departments selected randomly for this sample, 10 are housed in public universities and six in private institutions. Of the sociology graduate departments located in public universities, three are ranked as highly prestigious, three have moderate levels of prestige, and four are ranked low in prestige. Among the departments in private universities, two are ranked highly prestigious, another two as moderately prestigious, and two others as low in prestige. Six of these PhD-granting departments were located in the western United States, six in the east, two in the midwest, and two in the south.

The questionnaires provided information on students' family background, previous education, prior academic abilities, first-year and current grade point averages, attitudes toward their graduate programs, social support received, access to initial funding, access to mentoring, involvement in professional activities, and career aspirations.

## VARIABLES

We measured individual abilities by three variables. First, respondents were asked to provide their *GRE verbal and quantitative scores.* Many students had taken the GRE before the analytical component was included as a standard feature, so this area was not included in our analysis. Inspection of the number of cases for the verbal and quantitative components of the GRE revealed that a considerable number of respondents did not report scores; many indicated that they simply did not remember their scores. Because of these large numbers of missing cases and the possibility that respondents who did not report scores may have withheld scores because they were low, thereby confounding the analysis, we took precautions to check alternative interpretations of the results. To deal with missing cases, we followed the lead of Cohen and Cohen

(1975: chap. 7), who suggest the use of a dichotomous variable to indicate whether data are missing and to check for possible confounding effects (1=missing data). Then, for cases with missing data, we substituted the mean value for the subsample. This procedure allowed us to determine if persons who reported scores differed significantly from those who did not do so, without losing a substantial proportion of the sample. We controlled GRE scores by the *year the examination was taken.* To account for different cohorts, we asked each student to report the year of their GRE and used that year as a control variable.

Second, we asked each respondent for the *undergraduate gradepoint average* associated with their first BA degree. When data for this variable were missing, we used the same procedure as noted for the GRE variable above.

Third, we measured first-year graduate abilities with the *first-year graduate gradepoint average.* Each respondent was asked "In your current graduate program, what was your first-year graduate gradepoint average?"

Psychological attitudes and social support indicators were measured by four variables: peer support, active graduate voice, professional confidence, and satisfaction with department. *Peer support* is a Likert-scale item in which students were asked to respond to the following statement: "Graduate students in this department are cohesive and supportive of each other." Responses ranged from 1 (strongly disagree) to 5 (strongly agree). *Active graduate voice* was measured by responses to "Graduate students have an active voice in departmental affairs." The response categories ranged from 1 (strongly disagree) to 5 (strongly agree). *Professional confidence* was constructed from the responses to two questions. Students were asked to rank themselves in comparison with 1) all other students in their graduate department and 2) all other PhDs applying for jobs. Response categories ranged from 1 (bottom half) to 5 (top 1%). *Satisfaction with department* is an index consisting of summed scores from three questions. Respondents were asked "Overall, how satisfied are you with this department? With overall quality of teaching? With range of graduate courses offered?" Response categories for each question ranged from 1 (very dissatisfied) to 4 (very satisfied). The reliability alpha for this index is .71.

We measured departmental resources with three variables: initial funding, faculty mentoring, and professional activities. A single question asked whether respondents had received *initial funding* when they entered the department (1=yes, 0=no). Although this variable could have been measured as a ratio scale to assess variation in the amount of support received by students, such a measurement raises two concerns. First, in graduate programs, the financial aid that students receive during their first year is often allocated via university fellowships, especially at the most "elite" schools. Students who cannot secure such fellowships are often denied first-year support. Hence, funding becomes an either/or situation measured most effectively by a dichotomy. Second, it is often difficult to make comparisons between schools in the amount of financial aid awarded: aid amounting to $12,000 at an elite private institution is quite different from $12,000 at a moderately prestigious public institution in terms of both tuition and cost of living.

*Faculty mentoring,* the second variable, is an index constructed as the sum of four separate questions. Respondents were asked to rate two statements on a five-point scale ranging from "strongly agree" (coded 5) and "strongly disagree" (coded 1) and two items on a four-point scale ranging from "very satisfied" (coded 4) and "very dissatisfied" (coded 1). Ranked on the five-point scale were the statements "It is relatively easy to find a faculty member who is interested in my work" and "Faculty in this department are usually available for consultation or professional development." Items ranked on the four-point scale were "Individual attention from faculty advisors" and "opportunity to publish with faculty." The index has an alpha of .71.

Third, respondents were asked seven questions detailing their *professional activities:* "Ever apply for an external fellowship?" "Ever co-author a paper?" "Ever submit a paper to a professional meeting?" Ever sub-

mit a paper to a professional journal?" "Ever have a paper accepted for publication?" "Ever submit a grant to an external funding agency?" and "Ever submit a book manuscript for publication?" Respondents were scored 1 for each activity they had attempted and 0 otherwise. A test of reliability among these items produced an alpha of .73.

To assess career aspirations, we asked respondents to rank the job they would most like to obtain after completing their PhD. We asked them to indicate their preference for, or interest in, six different types of jobs: *faculty in PhD department, faculty in MA program, faculty in BA-only program, faculty in a community college, researcher in private sector,* or *researcher in a government agency.* Six variables represented the six job categories; each variable ranged from a value of 6 (high priority) to a 1 (low priority/no interest). In addition to the year when the GRE was taken, we employed controls for the respondent's *father's occupational prestige score* and *father's education,* respondent's *mother's education,* and respondent's own *race* and *sex, age at admission to graduate program, years in program,* and *foreign status.* We converted father's occupation into a prestige score. Education reflects the highest educational degree obtained (1=less than high school, 2=high school, 3=some college, 4=college degree (BA/BS), 5=graduate degree). We found some potential problems associated with multicollinearity when father's education was regressed on father's occupational prestige score and on mother's education (Lewis-Beck 1980:60); for this reason, we removed father's education as a control variable. We identified no other problems with multicollinearity among the independent variables. Table 1 displays zero-order correlations among the variables used in this analysis.

Years in program and age at admission are interval-level variables. We recoded race as well as sex into dichotomous variables (white=1, male=1). Foreign status is a dichotomous variable used to indicate students who attended foreign colleges as undergraduates (foreign=1). We included foreign status because both faculty members and administrators often have been heard to complain of potential language barriers in PhD-granting departments; this problem may reduce access to mentoring or impair professional confidence. International students also represent a different socioeconomic range than do students from the United States, and comply with different funding requirements.

The means, standard deviations, ranges, and number of valid cases for all variables are presented in Table 2.

### ANALYSIS

The analysis employed in this study is a structural equation model (Pedhazur 1982). We obtained coefficients for the paths through a series of OLS regression equations. Each endogenous variable in the equation was examined as a dependent variable and regressed on all preceding variables in the equation. We obtained the total effect by multiplying all indirect paths together and adding the products to the direct paths.

## FINDINGS

Table 3 displays the path coefficients for a model of professional socialization among students pursuing the PhD degree. Among those indicators of ability which students bring into the program, only undergraduate grade point average is found to affect initial funding. The GRE scores are not related to initial funding; also, and perhaps more important, those who reported their GRE scores are no more likely to receive funding than those who withheld this information. Overall we can explain only 12 percent of the adjusted variance in initial funding.

Although undergraduates' abilities are found to be minimally associated at best with initial funding, such funding is related directly to professional activities. Those who are funded when they enter the department are more likely to become involved in activities that will enhance their professional development. Contrary to expectations, however, initial funding is not found to affect other factors in the socialization process, including first-year graduate grades or perceived access to a mentor.

Table 1: Zero-Order Correlation Matrix of Variables Employed in the Professional Socialization Model

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Father's Occupation | 1.000 | -.016 | .363 | .099 | -.110 | -.047 | -.053 | -.129 | -.083 | -.111 | .178 | .127 | -.028 | .083 | .078 | .032 | .049 | -.022 | .070 | .044 | .071 | -.015 | -.044 | .053 | .021 | .110 | -.138 | -.095 | -.136 |
| 2. Father's Occupation Missing | | 1.000 | -.144 | -.064 | .031 | .052 | -.210 | -.037 | -.119 | -.053 | -.045 | .037 | .104 | -.055 | .054 | .039 | -.084 | .014 | .000 | .000 | -.024 | .003 | .026 | -.022 | .006 | -.060 | -.019 | .188 | .130 |
| 3. Mother's Education | | | 1.000 | .228 | -.139 | -.216 | .084 | -.239 | -.063 | -.118 | .192 | .066 | -.111 | .243 | .125 | .154 | .068 | .121 | .060 | .153 | .150 | -.008 | -.044 | .007 | .113 | .003 | -.052 | -.070 | -.033 |
| 4. Race of Respondent | | | | 1.000 | .036 | -.515 | .014 | .064 | -.101 | -.120 | .112 | -.081 | -.157 | -.074 | .117 | -.005 | .337 | .133 | -.004 | .100 | .149 | -.142 | -.095 | -.038 | -.001 | -.139 | -.029 | .060 | .067 |
| 5. Sex of Respondent | | | | | 1.000 | .165 | -.256 | .045 | .025 | .173 | -.106 | .073 | .087 | -.161 | -.117 | .003 | .073 | .125 | -.052 | .038 | -.116 | .125 | .158 | -.041 | .099 | -.057 | .040 | .059 | -.064 |
| 6. Foreign Status | | | | | | 1.000 | -.041 | .027 | .271 | .159 | -.130 | .051 | .064 | -.048 | -.165 | .092 | -.171 | -. 072 | -.025 | -.093 | -.080 | .049 | .059 | .110 | .115 | .168 | .004 | -.062 | -.118 |
| 7. Undergraduate GPA | | | | | | | 1.000 | -.143 | .017 | .032 | .028 | -.064 | -.016 | .145 | -.034 | .181 | .092 | -.075 | .000 | .000 | -.031 | -.197 | -.053 | -.003 | .084 | .133 | .120 | -.081 | .115 |
| 8. Age at Admission | | | | | | | | 1.000 | .070 | -.085 | -.019 | -.095 | .013 | -.319 | -.091 | -.315 | .138 | -.012 | -.034 | -.108 | -.096 | .109 | .069 | .079 | -.112 | -.144 | .037 | .043 | -.039 |
| 9. Undergraduate GPA Missing | | | | | | | | | 1.000 | -.056 | .062 | .013 | .170 | -.070 | -.028 | -.041 | -.185 | -.114 | .016 | -.179 | -.142 | .023 | -.109 | .107 | .036 | -.044 | -.002 | -.059 | -.102 |
| 10. Year GRE Taken | | | | | | | | | | 1.000 | -.086 | -.003 | - .172 | -.084 | -.602 | .042 | .016 | .078 | -.048 | .024 | -.124 | -.005 | -.010 | -.022 | .190 | -.026 | .004 | .049 | .109 |
| 11. Verbal GRE Score | | | | | | | | | | | 1.000 | .282 | -.079 | . 114 | .132 | .071 | .087 | .049 | -.013 | .028 | -.005 | -.165 | -.078 | .069 | .108 | -.034 | -.093 | -.086 | .033 |
| 12. Quantitative GRE Score | | | | | | | | | | | | 1.000 | .052 | .186 | .038 | .086 | -.043 | -.120 | -.048 | -.082 | .013 | -.058 | -.112 | .014 | .013 | .054 | -.064 | -.035 | -.126 |
| 13. GRE Scores Missing | | | | | | | | | | | | | 1.000 | -.032 | .109 | -.108 | -.048 | -.061 | -.072 | .017 | .065 | .073 | .060 | .034 | -.146 | .020 | .047 | .105 | -.099 |
| 14. Departmental Prestige Ranking | | | | | | | | | | | | | | 1.000 | .226 | .186 | -.168 | .021 | .151 | -.016 | .089 | -.047 | -.022 | -.144 | .243 | .055 | .018 | -.122 | -.008 |
| 15. Years in Graduate Program | | | | | | | | | | | | | | | 1.000 | -.020 | -.071 | .071 | .001 | -.119 | .125 | .022 | -.004 | -.063 | -.060 | -.002 | -.049 | -.096 | -.042 |
| 16. Initial Funding | | | | | | | | | | | | | | | | 1.000 | -.023 | .122 | .040 | .059 | .195 | -.210 | -.031 | -.045 | .254 | .074 | .156 | -.023 | .048 |
| 17. First Year Graduate GPA | | | | | | | | | | | | | | | | | 1.000 | .127 | .003 | .304 | .106 | -.004 | -.008 | .098 | .050 | -.069 | .038 | .007 | -.046 |
| 18. Mentor | | | | | | | | | | | | | | | | | | 1.000 | .443 | .279 | .254 | .273 | .518 | .120 | .221 | -.064 | .001 | -.052 | -.001 |
| 19. Peer Support | | | | | | | | | | | | | | | | | | | 1.000 | -.036 | -.041 | .269 | .366 | .128 | .137 | -.016 | .061 | -.115 | .021 |
| 20. Professional Confidence | | | | | | | | | | | | | | | | | | | | 1.000 | .286 | .045 | .119 | .016 | .136 | -.055 | -.086 | -.024 | .035 |
| 21. Professional Activities | | | | | | | | | | | | | | | | | | | | | 1.000 | -.077 | -.001 | -.027 | -.034 | -.016 | -.120 | -.057 | -.129 |
| 22. Active Graduate Voice | | | | | | | | | | | | | | | | | | | | | | 1.000 | .389 | . 040 | .013 | -.061 | -.057 | -.078 | -.070 |
| 23. General Satisfaction | | | | | | | | | | | | | | | | | | | | | | | 1.000 | .140 | .093 | -.135 | .044 | -.136 | -.023 |
| 24. Job Priority: Ph.D. Faculty | | | | | | | | | | | | | | | | | | | | | | | | 1.000 | .012 | .310 | -.301 | -.174 | -.308 |
| 25. Job Priority: M.A. Faculty | | | | | | | | | | | | | | | | | | | | | | | | | 1.000 | -.082 | .138 | -.222 | -.007 |
| 26. Job Priority: B.A. Faculty | | | | | | | | | | | | | | | | | | | | | | | | | | 1.000 | -.309 | -.244 | -.316 |
| 27. Job Priority: Community College Faculty | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.000 | .291 | .523 |
| 28. Job Priority: Governmental Agency | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.000 | .380 |
| 29. Job Priority: Private Sector | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.000 |

Number of Cases = 225

Table 2. Means, Standard Deviations, and Ranges for Variables Used in a Model of Professional Socialization

| Variable | Mean | Standard Deviation | Range | Number of Cases |
|---|---|---|---|---|
| Mother's Education | 2.66 | 1.35 | 1–5 | 309 |
| Father's Occupation | 62.09 | 22.19 | 4–99 | 309 |
| Father's Occupation Missing | 0.09 | 0.28 | 0–1 | 309 |
| Respondent's Race | 0.71 | 0.46 | 0–1 | 309 |
| Respondent's Gender | 0.46 | 0.50 | 0–1 | 309 |
| Foreign Status | 0.21 | 0.41 | 0–1 | 309 |
| Years in Graduate Program | 2.64 | 0.91 | 1–4 | 309 |
| Age at Admission | 29.94 | 6.98 | 21–58 | 309 |
| Department Prestige Rank | 2.39 | 1.31 | 0–4 | 309 |
| Undergraduate GPA | 3.40 | 0.37 | 2–4 | 309 |
| Undergraduate GPA Missing | 0.19 | 0.40 | 0–1 | 309 |
| Verbal GRE Scores | 591.72 | 68.63 | 270–800 | 309 |
| Quantitative GRE Scores | 599.41 | 76.93 | 280–800 | 309 |
| GRE Scores Missing | 0.56 | 0.50 | 0–1 | 309 |
| Year GRE Taken | 1982.29 | 4.43 | 1956–1988 | 309 |
| Initial Funding | 0.78 | 0.41 | 0–1 | 307 |
| First-year Graduate GPA | 3.72 | 0.28 | 3–4 | 257 |
| Mentor | 12.66 | 3.30 | 4–18 | 290 |
| Professional Activities | 2.50 | 1.81 | 0–6 | 309 |
| Peer Support | 3.46 | 1.12 | 1–5 | 308 |
| Active Graduate Voice | 3.09 | 1.15 | 1–5 | 307 |
| Professional Confidence | 7.03 | 1.60 | 2–10 | 280 |
| General Satisfaction | 7.82 | 2.12 | 3–12 | 301 |
| Job Priority: Faculty in PhD Program | 4.44 | 1.84 | 1–6 | 309 |
| Job Priority: Faculty in MA Program | 3.92 | 1.65 | 1–6 | 309 |
| Job Priority: Faculty in BA Program | 3.32 | 1.62 | 1–6 | 309 |
| Job Priority: Community College Faculty | 1.75 | 1.23 | 1–6 | 309 |
| Job Priority: Government Agency | 3.21 | 1.72 | 1–6 | 309 |
| Job Priority: Private Sector | 3.60 | 1.64 | 1–6 | 309 |

First-year graduate grade point averages (GPAs) in the current program are affected by undergraduate grades. Those who did not report undergraduate GPAs tended to have lower first-year grades; this finding suggests that these nonreports probably also had lower undergraduate grades. Undergraduate grade point averages remain a significant predictor of doctoral performance, even when we consider the truncated variation associated with grades at this level. Higher first-year graduate grades are associated strongly with an increased level of professional confidence. Yet, such grades are not related to the perceived availability of a mentor, to professional activities, or to general satisfaction with the doctoral program.

Notable in Table 3 is our inability to predict perceived access to mentors among students pursuing the doctorate. Nonetheless, availability of a mentor is found to be very influential in increasing professional confidence, professional activities, and general satisfaction with the program.

Professional activities are affected by several factors in the model. The strongest of these is access to a mentor: students who lack such access are less active professionally. Access to initial funding also has a positive influence on professional activities: students who receive funding upon entering the program are more likely to engage in professional activities.

Professional confidence is influenced by mentoring relationships, professional activities, and first-year grades. Students who indicate that they have access to a mentor are likely to express more confidence in themselves professionally. Similarly, those involved in activities encouraged by the disci-

Table 3. Professional Socialization among Students at PhD Level [a,b]

| Predictor Variables | IF[c] | GPA | MN | PA | PC | GS |
|---|---|---|---|---|---|---|
| Mother's Education | .10 | .02 | .14 | .04 | .06 | -.08 |
| Father's Occupation | -.04 | .01 | -.05 | .01 | -.04 | -.04 |
| Father's Occupation Missing | .08 | -.06 | .02 | -.08 | .03 | -.01 |
| Respondent's Race | .08 | .31*** | .09 | .12 | -.06 | -.08 |
| Respondent's Gender | .06 | .10 | .10 | -.17* | -.02 | .10 |
| Foreign Status | .17* | .03 | -.02 | .07 | -.03 | .05 |
| Years in Graduate Program | -.08 | -.08 | -.06 | .06 | -.21* | .03 |
| Age at Admission | -.26*** | .11 | .03 | -.05 | -.15* | .06 |
| Department Prestige Rank | .08 | -.14* | .06 | .02 | .01 | -.03 |
| Undergraduate GPA | .16* | .14** | -.10 | -.11 | -.01 | .06 |
| Undergraduate GPA Missing | -.04 | -.20** | -.07 | -.13 | -.08 | -.14* |
| Verbal GRE Scores | .06 | .10 | .09 | -.08 | -.04 | -.01 |
| Quantitative GRE Scores | .04 | -.01 | -.17* | -.05 | -.08 | -.04 |
| GRE Scores Missing | -.10 | .04 | -.01 | .14* | .04 | .07 |
| Year GRE Taken | -.06 | -.02 | .04 | -.07 | -.10 | -.06 |
| Initial Funding | | -.01 | .13 | .18** | -.04 | -.02 |
| First-year Graduate GPA | | | .09 | .07 | .26*** | -.07 |
| Mentor | | | | .24*** | .22** | .45*** |
| Professional Activities | | | | | .19** | -.08 |
| Peer Support | | | | | -.16* | .13* |
| Active Graduate Voice | | | | | .03 | .20** |
| $R^2$ | .18 | .21 | .11 | .20 | .27 | .41 |
| Adjusted $R^2$ | .12 | .15 | .05 | .13 | .20 | .35 |

a Figures reported are standardized regression coefficients.

b N = 225

c IF = initial funding; GPA = first-year GPA; MN = mentoring; PC = professional confidence; PA = professional activities; GS = general satisfaction.

*$p<.05$; **$p<.01$; ***$p<.001$

pline report higher levels of professional confidence. By contrast, students connected too closely to a support group of their peers have lower levels of professional confidence.

Satisfaction in the doctoral program is influenced primarily by perceived access to a mentor. Students who perceive that they have a voice in departmental affairs are more satisfied with the program; this finding suggests that democratic departments enhance students' general satisfaction with the program. Students who report greater perceptions of supportive peers are also found to be more satisfied with the program.

Factors identified in this process of professional socialization are expected to influence students' career aspirations and orientations. Those who demonstrate ability within their respective programs and engage in activities in concert with their professional reference group are most likely to aspire toward careers in the discipline. Yet, Table 4 reveals that this prediction is only partially correct. Of the six career paths, the factors associated with the model of professional socialization can explain a significant amount of variance in only two: faculty member in a PhD-granting department and researcher at a government agency.

For those aspiring to become faculty members in PhD-granting sociology departments, both initial funding and professional confidence are important factors. Equally important is the prestige ranking of the department: students in departments perceived as more prominent are more likely to aspire toward faculty appointments at PhD-granting programs.

Satisfaction with the program and parental socioeconomic factors are associated with aspirations to employment in government agencies. Students whose fathers have higher

Table 4. Career Aspirations among Sociology Students at PhD Level [a,b]

| Predictor Variables | PhDF[c] | MAF | BAF | CCF | GA | PS |
|---|---|---|---|---|---|---|
| Mother's Education | .01 | .03 | -.01 | .03 | .05 | .06 |
| Father's Occupation | -.01 | -.09 | -.13 | -.07 | .20* | .07 |
| Father's Occupation Missing | .06 | -.03 | .15* | .16* | -.09 | -.02 |
| Respondent's Race | .04 | -.03 | .07 | .06 | -.02 | -.03 |
| Respondent's Gender | .09 | .03 | -.05 | .02 | .08 | -.12 |
| Foreign Status | .11 | -.04 | -.10 | .05 | .16* | .11 |
| Years in Graduate Program | .09 | -.05 | .05 | -.11 | .05 | -.05 |
| Age at Admission | .06 | .06 | .01 | .01 | -.14 | -.01 |
| Department Prestige Rank | .25*** | .04 | -.03 | -.06 | -.01 | -.16* |
| Undergraduate GPA | .05 | .06 | .11 | -.06 | .10 | -.01 |
| Undergraduate GPA Missing | .10 | -.03 | -.07 | -.08 | -.08 | .09 |
| Total GRE Scores | .02 | -.10 | -.04 | -.06 | -.02 | .08 |
| Total GRE Scores Missing | -.10 | .08 | -.05 | .14 | .01 | .02 |
| Year GRE Taken | .20* | -.05 | .12 | -.01 | -.08 | -.05 |
| Initial Funding | .18* | .20** | .05 | .01 | .02 | -.04 |
| First-year Graduate GPA | .05 | .08 | -.11 | -.02 | -.01 | .12 |
| Mentor | .16 | -.01 | -.01 | .06 | -.11 | .08 |
| Professional Activities | -.13 | -.14 | -.16* | -.08 | -.01 | -.03 |
| Peer Support | .03 | .05 | .05 | -.06 | -.06 | .08 |
| Active Graduate Voice | -.01 | -.07 | -.04 | -.04 | -.07 | -.06 |
| Professional Confidence | .13 | -.08 | .10 | -.04 | -.05 | .01 |
| General Satisfaction | .01 | .04 | -.03 | -.16 | .25** | .12 |
| $R^2$ | .25 | .11 | .14 | .13 | .14 | .08 |
| Adjusted $R^2$ | .16 | .01 | .04 | .03 | .04 | .02 |

[a] Figures reported are standardized regression coefficients.

[b] N= 225

[c] Job Priorities: PhDF = PhD faculty; MAF = MA faculty; BAF = BA faculty; CCF = community college faculty; GA = government agency; PS = private sector.

*$p$<.05; **$p$<.01; ***$p$<.001

levels of educational attainment and more prestigious occupations are inclined to pursue government employment.

Factors associated with the model of professional socialization could not predict significant variation in the four remaining career paths. Although initial funding was found to be a significant predictor of aspirations to a faculty appointment in a terminal master's program, the overall equation did not differ significantly from 0. This finding, however, is in line with aspirations to faculty appointments in PhD-granting departments, suggesting that initial funding is likely to be important in affecting students' early aspirations toward faculty appointments in graduate programs of any kind. Similarly, students in less prominent graduate programs are more likely to look beyond the discipline into the private sector for employment opportunities. This finding is tempered, however, by the lack of significance in the overall equation.

## DISCUSSION

Both the human capital and the tournament model stress the importance of initial human capital in graduate students' success. Girves and Wemmerus (1988) suggest that human capital and integration directly affect success in the graduate program. In addition to ability, students' access to initial financial resources should help to integrate them early into their program and subsequently to enhance progress toward a degree. Rosenbaum's (1986) model shows that undergraduate abilities should directly affect only initial funding and first-year graduate abilities. Initial funding, in turn,

should affect only the first-year ability statuses. Presumably those students who do not receive financial assistance as they enter the program, but who nonetheless do well during their first year, will receive a financial subsidy later in their program. Hence the demonstration of ability during a student's first year (as expressed in grades) should offset the immediate effects of the lack of initial financial assistance if the department provides funds later.

In examining the complexities of the professional socialization process, we find some support for both models. Integration into the program in terms of initial funding, access to mentoring, and peer support appears to be more important in students' professional socialization than are the various measures of demonstrated ability included in this study. Although undergraduate abilities, as measures of demonstrable human capital, influence students' access to initial funding (as both theories predict), securing that funding enhances students' professional activities and their career aspirations, *even after we control* for differences in ascribed statuses, undergraduate abilities, and first-year graduate grades. This finding is expected on the basis of Girves and Wemmerus's theory because funding provides a means of integration into the department that is denied to students who do not receive such benefits. According to Rosenbaum, professional activities and academic career aspirations would be the outcome of previously demonstrated ability in the program. Hence, the effects of initial funding on these ability statuses should be mediated by the expected effects of first-year grades and faculty mentoring. Our study, however, did not find support for this aspect of Rosenbaum's argument.

We offer three possible explanations why initial funding was not found to be a strong mediating factor between undergraduate abilities and subsequent ability statuses such as first-year grades, faculty mentoring, and professional activities.

First, this hypothesized relationship among these variables does not actually exist; thus we question the rationality of the professional socialization process experienced by many sociology graduate students. Universalistic criteria such as demonstrated abilities may be less important than other factors in students' professional development; these factors may include particularistic characteristics such as students' substantive fit with the faculty, personal motivation to seek out faculty members, and ascribed characteristics that may alter professional development.

Second, students' grades in graduate programs are skewed strongly toward the high end; 25 percent of this sample report an untarnished first-year GPA of 4.00 and 75% received 3.50 or better. This truncation of range may reduce the importance of grades in a program, leaving initial funding as the indicator of ability that continues to directly affect the opportunities available to students throughout their programs.

Third, self-report data on sensitive information such as GPAs and GRE scores may be biased upward, thereby producing a truncated and incorrect range of variation. Although the departmental records maintained by graduate advisors may produce a more valid measure of these sensitive concepts, such information is typically viewed as highly confidential and was not accessible to us for this study. The use of self-report data reduces one's level of confidence in the results; therefore additional studies, attempting to replicate this model but employing more refined measures, would be useful for checking the accuracy of these findings.

In addition to initial funding, we found perceived access to mentoring opportunities to be quite important in students' professional development and satisfaction with their respective programs. Yet the irony of the mentoring process is that it was not found to be associated with the demonstration of ability. Instead we discovered that it resulted from an exchange that occurs between faculty and students on the basis of attributes other than demonstrated ability and initial funding. The classical models tested in this paper imply that in the absence of ability, such a process is nonrational because access to a mentor would likely rest with particularistic attributes of the students. How accurate is such a conclusion?

Nonrationality in the mentoring process may develop because faculty members choose to work with students on the basis of a particularistic rationale, not on the basis of specified universalistic criteria. Thus mentoring can be viewed as a reciprocal relationship in which both students and faculty benefit through the exchange of knowledge in a specific substantive area. Faculty members may choose to work with students *because* they share an interest in a substantive area; less overall emphasis may be placed on demonstrable ability in particular courses taken during the first year. On the basis of Rosenbaum's model, we expected to find that students who demonstrated successful performance on universalistic ability statuses would be significantly more likely to report access to a mentor. As noted previously, however, this expectation was not supported by the empirical evidence.

Although mentoring appears to be a particularistic phenomenon, it is essential for the professional development of graduate students. As shown by our results, access to a mentor greatly enhances the students' satisfaction with the program, increases their professional confidence, and raises their level of activity in the professional activities of the discipline. The manner in which students obtain mentors is critical for their professional development, but the literature on the subject is quite sparse. The classical models of professional development examined here do not offer alternative explanations; they completely fail to explain this process. Yet, the discipline should pay closer attention to how students obtain mentors, why some do not, and what types of mentoring relationships benefit students most.

One possible explanation rests with the interests of the faculty and of students in the graduate program. Wright (1964, 1967) attributed loss of interest in the field to a divergence between the students' and faculty members' orientation to the discipline. He suggested that students who entered graduate school with a preconceived image of the discipline (e.g., empirical, humanistic, or reformist) that did not coincide with the emphasis of the department were more likely to lose interest in the field as a career than others whose interests were more closely tied to those of the faculty. Similarly, Quarantelli, Helfrich, and Yutsy (1964) and Bess (1978) found that the faculty had little influence in changing new recruits' perceptions, once they entered an academic program. Hence faculty members' willingness to work with students and encourage their professional aspirations may depend on the extent to which such students' interests coincide with those of the faculty, regardless of the students' demonstrable abilities.

In a second explanation of how students obtain mentors, ascribed statuses may have subtle and indirect effects. Even after controlling for undergraduate abilities, as well as various ability statuses and social psychological factors in the graduate program, we found that factors such as race and age were related significantly to key variables in the socialization process. Most notable in this study are the lingering effects of race (see Table 2). Whites receive significantly higher first-year grades than their nonwhite counterparts, even after we control for prior ability and parental characteristics. Overt discrimination may be partially responsible for these findings, but comments from some nonwhite respondents suggest the existence of other latent mechanisms that impede the professional socialization of racial and ethnic minorities. One African-American respondent, a student from a prominent school in our survey, described the issue in this way:

> What is most debilitating is the distant remote professors. Some are racially insensitive and the remarks hurt. The students who are middle class are so intent on their homo-social reproduction through network ties that you can become lost and alone very quickly....Then there is the minority-on-minority ostracism. If you are black you are expected to socialize with mostly blacks. The tension caused by not belonging to either group, not fully accepted by either is more powerful than getting [high grades] in classes. Another powerful factor is alienation from the family. Many black students are the first generation to see the inside of a college, much less graduate school. Some [students] have families that give financial and emotional support, [while] others are expected to contribute to the family and get no support from them. If we didn't have the weather, there wouldn't be anything to talk about.

This statement suggests that both alienation and racial insensitivity impede nonwhites' socialization process. Alienation, as

a form of estrangement, results because many nonwhites in professional programs may lack a strong support group. Attempts to break down racial barriers are met with considerable resistance both by white students from higher social classes and by nonwhite peers. The result may produce a weaker perception of social support, lesser integration into the program, and an alteration in the kind of mentoring relationships that develop.

Although we did not find that females were disadvantaged in comparison with their male counterparts, we offer some comments about the potential importance of gender in graduate programs. We found respondents' gender to be be related inversely to the level of professional activities: that is, females are significantly more likely than males to participate in the discipline in a professional capacity. Yet the prevalence of gender stereotypes in the institutional networks of academia may produce the impression (albeit inaccurate) that women are capable of producing high-quality work only under the direct supervision of others (Reskin 1978). Women, as graduate students, are more likely to collaborate with female mentors (Reskin and Hargens 1979), but they are also more likely to be exploited by other colleagues (Collins 1983) and receive less credit than other coauthors (Keller 1985). This point raises questions about the structure of the mentoring relationships that develop within professional programs, in regard to both the gender/race composition and the extent to which students can rely on their mentors as important gateways to networks when they enter the marketplace.

In addition to initial funding and mentoring, professional confidence and satisfaction with the program are two social psychological factors identified by Girves and Wemmerus as important in students' degree progress. In agreement with their theory, we found that higher first-year graduate grades enhanced students' professional confidence; availability of a mentor increased both satisfaction and confidence. Only satisfaction was found to influence career aspirations, and in this case only in connection with anticipation of work in a government agency.

Two comments are pertinent to career aspirations. First, the mediocrity of our ability to predict academic career aspirations is not surprising in view of students' tendency to inflate their abilities in relation to other students. When asked to compare themselves with all other new PhDs applying for jobs, 7 percent of our respondents placed themselves in the top 1 percent and 43 percent ranked themselves in the top 10 percent. A more accurate indicator of anticipatory socialization would be to examine students' entrance into the academic labor market. One study examining this issue found that pre-employment productivity is a moderate indicator of subsequent productivity, but that initial academic appointments are predicted by the prestige of one's doctoral program (Long, Allison, and McGinnis 1979).

A second concern involves academic versus private-sector career choices. In a previous paper (Moore and Keith 1992), we found that the prestige of the doctoral program and perceptions of inequities were associated with aspirations to the private sector. Students who aspire to private-sector occupations tend to come from less prestigious doctoral programs or have reported inequity in their academic training. One possible explanation for this finding is alluded to by Plutzer (1991), who examined irrational aspects of the status attainment process in graduate school. Some students, he argues, are viewed by faculty members as predestined for success and thereby represent the elect. Signs of membership in this elect group include high GRE scores, demonstrable verbal and written abilities that presumably are reflected in high first-year grades, and highly focused dissertation topics that require little time to formulate. Students with such attributes should be more confident professionally and more successful in the discipline. (These predictions are not supported entirely by the model tested here.) In consideration of departmental prestige, however, Plutzer suggests that students from more prominent programs should be the most successful in securing employment because they worked most closely with those who are viewed as the elect in the discipline. In light of the literature

suggesting that doctoral prestige is influential in academic appointments, additional work is needed to assess the fit between students' professional socialization and their eventual career choices.

## IMPLICATIONS OF PROFESSIONAL SOCIALIZATION

This study suggests that the discipline needs to sponsor an assessment of sociology graduate programs as training grounds for future sociologists. The teaching of sociology must extend beyond classroom pedagogy to include an understanding of the organizational milieu in which professional development occurs. The fit between students and faculty, the importance of financial support, the process of mentoring within such programs, and the likelihood of career opportunities all need closer evaluation if we are to determine the success of the discipline in training people to carry out its objectives and to assess the actual opportunities it provides for people who aspire to careers in sociology.

Results from this study suggest that graduate students' anticipatory socialization into the academic profession demonstrates less rationality than sociologists might have assumed. Mentoring is an essential aspect of sociology students' professional development, enhancing their professional self-image and academic activities. It provides the relatively smooth transition into the discipline that we might anticipate. Mentors, however, are not attached to students on the basis of any universalistic criteria. Consequently departments must examine more closely the fit between admitted students and faculty members and must consider the likelihood of students' obtaining mentors. In doing so, departments would be likely to benefit from periodic program reviews that involve departmental faculty members and impartial external reviewers. Attention should be given to the department's mission and objectives, to its substantive focus, and to an attempt to connect faculty interests more closely with those of prospective students. Also important to the future of professional training is the development of program policies that recognize the educational environment built into graduate programs. Particular attention must be directed toward minority student issues in curriculum and professional training; programs must display sensitivity and commitment to an ongoing assessment of mentoring structures and to the allocating of ability statuses and opportunities to students once admitted.

Variation across programs in available funds, and the patterns of students' access to those funds throughout their graduate careers, may be more crucial in determining the next generation of academic sociologists than individual students' abilities and social psychological resources. The importance of initial funding suggests the need for change toward more fully democratic departmental policies, as well as expansion of financial resources. This problem may be approached in at least two distinct ways. First, if full funding for all students admitted into graduate programs is beyond the ability of most departments or universities, legislative enactments at the state and federal levels may be needed. In this regard, for example, a policy could be instituted whereby the federal government would provide loans to cover tuition and living expenses of students pursuing professional degrees. The students would be required to repay the loans over a preestablished period after completing or departing from graduate training. Such a policy is in line with Clinton and Gore's (1992:87) proposed National Service Trust Fund, which would guarantee every person qualified to enter a graduate program the means to do so.

Faculty research grant activities are another important resource for increasing funding for graduate students. Yet because faculty members are unlikely to generate enough resources from grants alone to fund virtually all students and because a policy of full funding of graduate students is unlikely to be enacted in the foreseeable future, an alternative solution would be to implement a national process of pooled applicant admissions, similar to the American Psychological Association's doctoral internship program. A national pool of applicants, or a national letter of intent day,

would encourage a widening of the application process by students and thereby would reduce the possibility of a mismatch between students, programs, and mentors. Students choose programs on the basis of financial, geographic, and family considerations as much as for academic specializations, expert mentors, or vague notions of departmental prestige. A national pool policy would attempt to match students more closely with programs on the basis of a closer set of criteria expanded beyond human capital factors; it could include closer matching for career aspirations, especially outside the traditional academic paths. Moreover, in attempting to match students to programs, this policy takes into account Wright's (1967) findings that faculty members are unlikely to change the perceptions that new recruits bring into a program. Thus it increases the probability that students will benefit from the substantive focus of the program.

Finally, more research is needed to assess the fit between professional programs and economic opportunities. Several notable studies have examined entrance into academic markets (Burke 1988; Caplow and McGee 1958; Long et al. 1979), and cite the prestige of students' academic departments as the primary factor in securing desired employment in academia. This approach, however, assumes that all graduate students aspire to the most prestigious departments and are oriented toward academic careers in research. The findings of our study suggest that this is not correct. In view of the considerable variation in teaching and research orientations, the extent of students' success in satisfying their career aspirations must be explored further in several ways. For instance, is the discipline training too many students? If so, for which career paths? Moreover, what public- and private-sector markets are likely to be open in the next decade? Do students only from the most elite programs reach their career objectives? In light of these questions, far too little is known about the importance of professional socialization to a wider array of professional positions, and about the consequences of unfulfilled aspirations for public perceptions of the discipline in the future.

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