

CAREER MOBILITY IN AGRICULTURAL EDUCATION: A SOCIAL LEARNING THEORY APPROACH

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Much of the research on factors relative to career turnover of teachers has focused on specifics such as long hours or the amount of paper work (Cole, 1984; Bundy and Fruehlich, 1969; Dillon, 1978; Knight, 1978). While interesting and potentially beneficial, such studies could be enhanced by linking these specifics to underlying concepts thereby giving a more in-depth perspective of the career mobility phenomenon. An appealing approach for such an in-depth inquiry into turnover is social learning theory. Social learning theory posits that psychological functioning can be explained in terms of the interaction of personal characteristics, previous behavior (learning) and environmental determinants (Chapman, 1984). This psychological functioning involves valuing certain outcomes, discriminating among situations in terms of their potential to bring about these valued outcomes, judging one's ability to function and decide which situations to enter and how to behave in them. Krumboltz (1979) expanded this basic definition of social learning theory in career decision-making as a way to identify the interaction of personal characteristics, learning experiences, cognitive and emotional responses, and performance skills that produce movement along one career path or another. This movement includes an individual's decision to stay in a profession or leave.

This perspective offers a general explanation of career choice. Specific definition of each construct for this study was: (a) personal characteristics - reasons (motivation) for entering teaching, (b) learning experiences - educational preparation, grade point average, quality of first year employment, (c) cognitive and emotional responses - attainment and importance of criteria of professional success, initial commitment, and (d) performance skills - professional integration into teaching as defined by perceived competency.

Purpose

The purpose was to examine the Krumboltz's extension of social learning theory to career decision-making by comparing individuals who left teaching to those who have remained, on selected constructs. By comparing stayers and leavers on constructs associated with more fundamental concepts of the theory, basic processes of turnover can be identified and understood in a more systematic, theoretical fashion. Given the theoretical proposition that career behavior can be explained by the positive or negative nature of the social learning experience, the hypothesis that stayers would report more positive outcomes on the defined constructs than leavers was developed. An additional hypothesis was constructed that stated that a linear combination of variables would be identified that maximally discriminate leavers from stayers.

Method

Population and Sample: The target population was all graduates of the University of Wisconsin System certified to teach agricultural education from 1962-1982 who were either still teaching or had taught and left the profession (678). All individuals identified as leavers (393) were sent a postcard to confirm addresses and willingness to participate. A total of 266 responded. The number of individuals in the sample who were still teaching totaled 285.

Instrumentation: The instrument employed was a modified version of an instrument used by Chapman (1984) in a similar study. The variables and their definitions are below. The dimension of the Krumboltz expansion that is associated with each variable is noted in parentheses.

1. Educational preparation (learning experiences) - This construct addressed the teacher's perception of the adequacy of his/her preparation for teaching (e.g. level of scholarship, quality of agricultural education courses). Also included was grade point average as a measure of academic success (McCoy & Mortensen, 1983).
2. Quality of first year teaching experience (learning experiences) - Early frustration can be brought on by a dissonance experienced between reality and how adequate one feels to handle that reality. As such, the quality of first year experience can be compromised. Quality was assessed by asking how positive the individual felt about various aspects of teaching during the first year (e.g., salary, disciplining students, excessive time demands).

Journal of Agricultural Education
Volume 31, Number 1, pp.75-79
DOI: 10.5032/jae.1990.01075

3. Initial commitment to teaching (cognitive and emotional responses) - initial commitment reflects the degree of commitment one had prior to career entry (e.g., commitment to teaching, commitment to agriculture).
4. Importance and attainment of criteria for professional success (cognitive and emotional responses) - These two constructs assessed the importance assigned to various criteria considered important for success (Chapman, 1984) and the degree to which the individual attained or experienced these criteria (e.g., enough time to get the job done, seeing the results of my work, interesting work).
5. Professional integration into one's career (performance skills) - Integration was defined as the degree to which individuals felt they possessed selected skills and abilities to teach successfully or, how competent they felt (e.g., how competent one felt in plant science, asking questions as part of teaching, using a variety of teaching methods). These included both pedagogical and technical agriculture skills (Cole, 1984).
6. Reasons for entering teaching (personal characteristics) - This dimension references a variety of factors (mostly external) that could have influenced one to enter teaching (e.g., high school counselors, agricultural education professors).

A Likert-type scale (1-not at all to 6-extremely) was used as an indicator of subject response to all items except grade point average. Response to grade point average was coded A = 4, B+ = 35, B = 3, Ct = 25, C = 2. Turnover was coded 1 = stayers and 2 = leavers. A principal components analysis was conducted on multi-item scales as an index construction procedure. The resulting component scores (standardized) were used in each analysis. These scores reflect the weighted contribution of each item to its component and its eigenvalue was used to determine the maximum alpha coefficient of internal consistency (Serlin & Raiser, 1976).

All constructs were assumed to be unidimensional except the construct assessing reasons for entry into teaching. The principal components analysis confirmed this assumption with five orthogonal components being identified for this dimension. Reasons for entry included the components identified as influence of high school agricultural education experience, college counselor/professors, parents/friends, high school counselors/teachers, and desire to be involved in teaching and agriculture. Scale reliabilities were computed for the constructs of initial commitment (.82), competence (.87), quality of first year experience (.81), educational preparation (.88), importance of criteria for success (.85), attainment of criteria for success (.86), influence of high school agricultural education experience (.90), influence of college counselors/professor (.77), influence of high school counselors/teachers (.56), influence of parents/friends (.66), and desire to be involved in teaching/agriculture (.46).

Data Collection and Analysis: A questionnaire was mailed to each subject in the sample (551). A total of 417 **usable responses** were received following a second mailing, yielding a 76% response rate. There were 219 responses from teachers (77% response) and 198 responses from those who had left teaching (75% response). A non-respondent follow-up and analysis was employed to determine if differences existed between respondents and non-respondents. Twenty randomly selected non-respondents were compared to the respondents on overall measures of each construct. No differences were identified.

Using SYSTAT 4.0 (Wilkinson, 1987), discriminant analysis was conducted to determine if the two groups (leavers and stayers) differed significantly on the variables discriminating between the two groups. The selection of variables to be included in the discriminant analysis was conducted by examining significant univariate analyses. Those variables not yielding significance ($p \leq .05$) were deleted prior to the multivariate analysis. Variables are not expected to have a reasonable expectation of containing information about group differences by themselves should not be included in the analysis because one loses power in the process (Huberty, 1975).

Descriptive statistics were used to describe the data and sample. Pearson product moment correlations were computed to assess the degree of relationship among variables.

Results

Table 1 displays means and standard deviations of discriminating variables for leaves and stayers in standard deviation units and univariate statistics computed prior to the discriminant analysis.

Tabk 1
Means and Standard Deviations for Discriminating Variabks

Variabk	Stayers	Leavers	Univariate F	Prob.
Educational preparation	.117 0.994	-.133 0.995	5.474	.020
Grade point average	.148 0.984	-.164 0.994	11.836	.001
Initial commitment	.076 1.026	.087 0.968	2.740	.099
Quality of first year experience	.118 1.009	-.127 0.978	5.720	.017
Professional integration	.116 0.917	-.132 1.075	6.564	.011
Importance of criteria for success	.167 0.963	-.185 0.991	14.049	.000
Attainment of criteria for success	.163 0.920	-.183 1.0527	13.865	.000
Reasons for career				
High school ag ed	.071 0.969	-.077 1.033	2.029	.155
College experience	.014 0.967	-.034 1.033	0.165	.685
High school experience	.059 0.981	-.065 1.021	1.440	.230
Parents/friends	.002 1.016	.003 0.986	0.001	.975
Desire to teach	.024 1.046	-.026 0.951	0.221	.639

Note. Data are listed as means over standard deviations.

To select the variables for inclusion in the discriminant analysis, the discriminant feature in SYSTAT 4.0 (Wilkinson,1987) computes the **univariate F-statistic** for each variable. Due to the significant differences ($p < .05$) between leavers and stayers, the variables included in the discriminant analysis were educational preparation, grade point average, quality of first year teaching experience, professional integration into teaching, importance of criteria for success, and attainment of criteria for success. The discriminant analysis revealed that those remaining in teaching had significantly higher means than those who had left teaching on each of these variables.

Using these variables, the null hypothesis tested was that there was no difference between the leaver and stayer groups centroids on the discriminant scores. A Wilks' lambda of 0.924 and chi-square of 32.548 was reported with 6 degrees of freedom. Because the chi-square was significant at $p < .001$, the null hypothesis was rejected indicating a significant difference between leaver and stayer group centroids. As a result of the discriminant score, 62 percent of the groups were classified correctly (see Table 2).

Tabk 2
Discriminant Analysis Results

Group	Number of cases	Predicted		Group	
		Group 1		Group 1	Group 2
Stayers	220	140	64%	80	36%
Leavers	197	80	40%	117	60%

A tau coefficient, indicating degree of improvement in classification over that expected by random classification, was computed to be .26. Given a canonical correlation coefficient of .28, a Wilks' lambda of .924, and a tau coefficient of .26, the discriminating power of these variables was considered marginally beneficial in classifying these two groups even though the discriminant function was significant.

The standardized canonical discriminant function coefficients are shown in Table 3. The highest coefficient (.651) associated with importance of criteria for success was used to apply the rule of examining only those coefficients whose absolute value is not less than half of the largest. This indicates that all the discriminating variables were important in contributing to the discriminant function.

Table 3
Discriminant Analysis Summary Data

Variable	Stand. Canon. Loadings	Group	Centroids
Educational preparation	.399	Teaching	.478
Grade point average	.575	Left teaching	-.495
Quality of first year experience	.450		
Professional integration	.440		
Importance of criteria for success	.651		
Attainments of criteria for success	.615		

$R_c = .28$

Wilks' lambda = .924

$p < .001$

Note. R_c = Canonical Correlation Coefficient.

Discussion and Implications

These tidings suggest that social learning theory may offer unique insights into underlying dimensions of the career mobility phenomenon. This study was not designed to ascertain why potential differences existed but to examine the possibility of difference existing on dimensions of social learning theory as expanded by Krumboltz(1979) to a career decision-making model. As a result, individuals who have remained in teaching reported more positive learning experiences (educational preparation, grade point average) and felt more competent (performance skills) in teaching than leavers. This is consistent with the implication of the theory that individuals think, feel, and behave differently when they feel confident about their abilities than when they feel incompetent. Cole (1984) reported similar findings suggesting that competence in teaching skills was important to career longevity in teaching.

Leavers reported less importance assigned to the criteria for success and a lower acknowledgment of those criteria in teaching than did stayers. In concert with other differences in the study, it makes sense that individuals who report more positive educational preparation and professional integration may also have more realistic expectations of what to find in teaching given what one values (Grady, 1987; Michaels & Spector, 1982). In preservice preparation, more attention may be needed to help prospective teachers develop a more realistic assessment of what they could expect in teaching given what they want to get from a career.

Findings also suggest that stayers had a more positive experience on their first teaching job than did leavers. This is in line with previous studies describing the first year of teaching as a time of severe disillusionment for many (Chapman, 1984; Gaede, 1978). It seems appropriate for administrators and teacher educators to continue shaping the tone and quality of new teachers' first teaching experience in view of the recommendations of Martin & Howell (1983). The type of supervision by principals/supervisors can have profound influence on the perceived success of beginning teachers.

Although a set of variables consistent with the dimension posited by Krumboltz was identified that discriminated between leavers and stayers, the moderate power of the function to discriminate between the groups suggests that other variables ought to be included as discriminating variables

used in this study. This suggestion is not a determination that the expansion by Krumboltz is not a functional, valid theory. It is a suggestion that additional variables may be added to enhance the definition of certain constructs of the theory. For example, career satisfaction was not included in this study but might help further define the cognitive and emotional response dimension of the theory as it relates to career decision-making. Therefore, it would be premature to assume the theory has marginal validity until more exhaustive studies are conducted.

From this study, social learning theory appears to hold promise in helping us better understand the career mobility phenomenon. Further research should be conducted that hypothesizes plausible casual relationships among the dimensions of social learning theory. For example, some of the constructs identified occur prior to entry into teaching (e.g., grade point average, educational preparation), while others are more developmental while engaged in teaching (e.g., professional integration, attainment of criteria for success). Does the degree of success in the prior experiences effect the degree to which one is able to function successfully in the more developmental experiences of teaching? This suggests a future study which would offer a hierarchal structural model hypothesizing time-ordered relationships among variables.

Considering that two of the constructs addressing personal characteristics had marginal reliability, it would seem worthwhile for future researchers to investigate these more fully. This could be addressed by developing a more comprehensive construct to include more than two to three items. This may account for the fact that statistically significant differences were not found.

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