

# **LEADERSHIP STYLES OF COOPERATIVE EDUCATION DIRECTORS, ORGANIZATIONAL CHARACTERISTICS AND ELEMENTS OF PROGRAM SUCCESS**

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Successful growth of cooperative education programs presupposes leadership and assumes an organizational support structure. Hartley, (1979) and Gilbertson, Henry & Wendal (1980) identify the importance of the cooperative education director's leadership on program success. Institutional support and structure (Wilson 1978) and organizational characteristics (Knowles 1971) have traditionally been identified as necessary components of program success. Criteria for program success have been primarily oriented toward qualitative outcomes of cooperative education programs (Hayes and Travis, 1976; Hill, 1974; Lauver and McNabb, 1975; Perloff and Sussna, 1978; Rowe, 1970; McKenna and Squires, 1977; Wilson, 1973). There is, however, a lack of empirical evidence in the cooperative education literature which supports the contention that the leadership style of the director and organizational

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structure is related to successful program outcomes.

The purpose of this research was to determine if the leadership styles of cooperative education directors interact with the institutional and program organizational characteristics to influence program outcomes. If relationships could be found, the implications for recruitment, training, program planning and evaluation could be significantly enhanced. Leadership and organization theory was investigated to derive measures which would identify empirically the perceived leadership style and organizational characteristics which may be related to quantified program outcomes. More specifically the purposes and hypothesis of this research were

1. To identify the leadership styles, as measured by the Leadership Opinion Questionnaire (LOQ), of directors of cooperative education programs at colleges and universities in the United States;
2. To measure selected institutional and cooperative education program organizational characteristics which may affect cooperative education program outcomes;
3. To measure selected quantified cooperative education program outcomes;
4. To determine if relationships exist between director's leadership style and characteristics of the program and institution's organizational structure;
5. To describe the differences in cooperative education directors' leadership styles between two-year and four-year institutions;
6. To describe the differences in organizational structural characteristics and leadership style which may exist among the six geographic regions in the United States;
7. To describe any differences which may exist among the six geographic regions in the United States and types of institution in terms of director's leadership style and organizational structural characteristics on program outcomes;
8. To identify the strength of relationship among dimensions of director's leadership style and organizational structural characteristics to selected cooperative education program outcomes.

## **METHOD**

### **Scope and Questionnaire**

The target population was all cooperative education directors at

two-year and four-year colleges and universities in the United States. The sampling frame used was the mailing list of 397 two-year and 505 four-year institutions of higher education, prepared by Northeastern University in June, 1980.

A mail questionnaire was developed and reviewed by an expert panel of judges. Part one ascertained background data on the responding director.

Most of the respondents reported to a person with the rank of Dean/Associate Dean/Assistant Dean (46%), Vice President/Provost (28.1%) or Director (15.8%) and were located in the academic (instructional) part of the institution's organization (81.9%).

Finally, besides determining in what part (academic/nonacademic) of the institution they were located, the respondents were asked to list the titles of each person between them, as co-op director, and the president of the institution. Five indicated that they reported directly to the president (one level). The mode was three levels (54 respondents) with a mean  $X = 3.24$  and a standard deviation of 1.0.

## **Independent Variables**

### **Leadership Style**

Each respondent's self-perceived leadership style was measured using the Leadership Opinion Questionnaire (Fleishman, 1969). The LOQ measures two dimensions of leadership style: Consideration (C) and Initiating Structure (IS). Consideration is the extent to which the leader has job relationships with subordinates of mutual trust, respect, and consideration for their feelings with two-way communication and a climate of good rapport. Initiating Structure is the extent to which the leader defines and arranges his or her own role and those of subordinates toward goal attainment and the degree of actively directing group activities through planning, communicating information, scheduling, criticizing, and trying out new ideas.

These two dimensions of leadership behavior are theoretically independent. The Pearson-product moment correlation between the two dimensions measured was  $r = .06$  (Not Significant).

### **Organizational Structural Characteristics**

Scales were initially developed to assess the following dimensions of organizational structure:

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1. *Centralization*, defined as the locus of decision-making authority within the cooperative education program and institution;
2. *Configuration*, the "shape" of the role structure including subordinate ratios (span of control), height of department and administrative hierarchy, and proportion of coordinators and support personnel;
3. *Standardization*, the degree to which procedures, (e.g., selection, placement, evaluation, control) are standardized;
4. *Formalization*, the degree to which rules, procedures, instructions, and communications are written and the degree to which roles are defined.

Centralization was assessed by asking each respondent to indicate the degree to which s/he participated in three personnel decisions using the following response scale: no decision input; minor decision input; equal participation on decisions; major decision input; only I make the decisions. Other structural dimensions were assessed by asking the respondents to indicate on a five point scale (1 = least resembles, 5 = most resembles) the degree to which each of 12 statements described their organization.

A factor analysis procedure was applied to responses related to organizational characteristics. The resulting solution of six factors after six iterations was tested for reliability using Cronbach's Alpha (Cronbach 1970) to determine the consistency of the multiple item factors. An Alpha coefficient of .5 or higher, as suggested by Nunnally (1978), was used for retaining the multiple-item factors for analysis. Two of the three multiple-item factor scales reached acceptable levels of internal consistency. Table 1 reports the two multiple-item scales, with their factor loadings and coefficient. In addition, it shows the three single-item factors.

Part two, containing 32 items, gathered data regarding institution and program organizational characteristics. Part three, containing ten items, measured quantified program outcomes. Part four was a standardized questionnaire measuring the director's perceived leadership style.

The instrument was field tested with a random selection of 24 cooperative education directors drawn from the sampling frame. The questionnaire was mailed on October 20, 1980, followed by extensive accounting and follow-up procedures resulting in a return of 79.4%. The independent and dependent variables measured are discussed below.

### Sample

Using a stratified random sampling procedure, 30 directors (15 each

**Table 1**  
**Factor Scales, Questionnaire Items**  
**Factor Loading, and Scale Reliability**

<b>Scales/Items</b>	<b>Factor Loadings</b>	<b>Reliability</b>
<b>Centralization</b>		
To what extent do you, as the co-operative education director, make decisions to hire personnel for your department	.93	
To what extent do you, as the co-operative education director, make decisions to dismiss personnel for your department	.92	
To what extent do you, as the co-operative education director, make personnel assignments related to the operation of cooperative education	.75	.874
<b>Formalization</b>		
Task instructions to co-op personnel usually take the form of oral communications	.90	
Task instructions to co-op personnel usually take the form of written documents (Reversed scored)	.89	.851
<b>Standardization</b>		
Learning objectives are written on standardized forms, and copies are held by the director, coordinator, student, and employer	1.00	
<b>Coordinator 1</b>		
Coordinator's activities are solely scheduled by each individual coordinator	.98	
<b>Coordinator 2</b>		
Coordinator's activities are solely scheduled by the administration	.98	

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from two- and four-year colleges) from each of the six geographical areas (New England; Middle States; Southern; North Central; Northwest; and Western) were chosen for study. Of the 180 sampled, five were dropped because they had discontinued their cooperative education programs. Of the remaining 175 directors, 139 or 79.4% returned useable questionnaires.

The mean years in position as co-op director was five years ( $X = 4.80$ ) with a range from zero (0), newly appointed directors, to 17 years. The age of responding directors varied from 24 (or under) to over 60 with a mean age group of 35-39 years. The proportion of male to female directors was 3:1, confirming findings by Stull (1980). The majority of respondents (over 80%) held master's degrees or higher. The mean number of years of experience in cooperative education was six years ( $X = 6.30$ ). Thus, the respondents were experienced, educated cooperative education directors.

Only 1.4% of the respondents represented two-year private colleges. While the respondents were referred to by a wide variety of titles, the two most common were Director of Cooperative Education (51.8%) and Coordinator of Cooperative Education (17.3%).

The first factor, labeled Centralization, measures the degree to which the cooperative education director makes decisions regarding personnel ( $\alpha = .847$ ). The second factor, labeled Formalization, measures the form in which task instructions are communicated ( $\alpha = .851$ ). Factor three, labeled Standardization, measures the extent to which learning objectives are written and available to all affected parties. The fourth and fifth factors measure the degree to which the coordinator or the administration respectively schedules coordinator activities.

In addition to these measures, the respondents provided additional information, e.g., span of control, placement in the organization, use of organizational charts, and number of hierarchical levels.

### **Dependent Variables**

Typically, studies of cooperative education have examined outcome variables relating primarily to either the student (e.g., motivation) or the employer (e.g., cost of hiring). This study was concerned with measuring outcomes that would serve as indicators of the acceptance and effectiveness of cooperative education programs from the institution's viewpoint. The following five program outcomes were thus chosen for examination:

1. The percentage of total students who are co-op students
2. The percentage of faculty who are co-op coordinators
3. The percentage of total academic departments who have co-op students
4. The cost per cooperative education student placement, as determined by the total placements and the cooperative education program budget
5. The percentage of total co-op employers making job offers to co-op graduates.

## RESULTS

### Purpose 1

Identification of directors' self-perceived leadership styles was

**Table 2**

**Comparison of Responding Cooperative Education Director's  
Leadership Style to Norms for Educational Supervisors**

Responding Director's		Norms for Education Supervisors		
Consideration	Initiating Structure	Verbal Description	Consideration	Initiating Structure
58	43	Very High	73-76	55-61
		High	66-72	49-54
		Average	60-65	39-46
		Low	54-58	31-38
		Very Low	Low-52	Low-29

When compared to other educational supervisors, cooperative education directors tend to be average in Initiating Structure and below average in Consideration. The implications of this will be discussed later.

### Purpose 2

Selected institutional and program organizational characteristics were measured. The results indicated that the average span of control of co-op directors was 12 ( $\bar{X} = 12.18$ ) with a range of none (0) to 79 employees. Table 3 displays the number of employees supervised by type.

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**Table 3**  
**Type of Employees Supervised by the Responding Directors**

<b>Item Number</b>	<b>Question</b>	<b>Range</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>	<b>Mode</b>
7a	How many full time cooperative education coordinators reported directly to you?	0-16	0.98	1.69	1.47	1.00
7b	How many part-time cooperative education coordinators (that are instructional faculty employed at the college full-time) reported directly to you?	0-42	5.87	8.53	7.13	1.00
7c	How many full-time administrative assistants did you directly supervise?	0-4	0.33	0.49	1.29	1.00
7d	How many full-time cooperative education clerical/secretarial personnel reported directly to you?	0-5	0.94	0.79	1.15	1.00
7e	How many full-time other employees reported directly to you?	0-55	2.20	6.84	3.00	1.00
7f	How many part-time other employees reported directly to you?	0-45	1.58	4.98	1.63	1.00



measured by the Leadership Opinion Questionnaire. The mean results are displayed in Table 2 and compared to norms for educational supervisors.

The means and standard deviations for the five factor analytically derived measures of organizational structure are shown in Table 4. Overall they give a picture of fairly autonomous, semi-structured units. This picture of semi-structuredness is supported by the fact that while 63.3% of the respondents indicated that they have written procedures, rules and policy manuals for the operation of the co-op program, (23.7% indicated partially), only 40% indicated that there were written job descriptions for all co-op personnel. Eighteen percent responded that there were no written job descriptions for anyone, with 19% indicating they existed only for the Director.

**Table 4**  
**Means and Standard Deviations**  
**of Five Measures of Organizational**  
**Structure Derived via Factor Analysis**

<b>Scale</b>	<b>Mean</b>	<b>Standard Deviation</b>
Centralization	2.69	.96
Formalization	2.86	1.17
Standardization	3.73	1.53
Coordination 1	3.19	1.45
Coordination 2	1.53	1.04

In addition, while 81.3% indicated that there was an institutional organizational chart, only 55.4% indicated most institutional personnel receive a copy of the chart, including revisions.

**Purpose 3**

Selected quantified cooperative education program outcomes were measured and are displayed in Table 5.

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**Table 5**  
**Summary of Averages and Standard Deviation for the Computed**  
**Cooperative Education Program Outcome Variables**

Decription of Variable	Mean	Standard Deviation	Median	Mode
1. The percent of cooperative education students enrolled.	4.3%	10.18%	2.13%	.33%
2. The percent of full-time faculty who are part-time cooperative education coordinators.*	9.41%	13.33%	4.00%	.56%
3. The percent of academic departments with cooperative education students.	55.56%	30.10%	55.04%	100%
4. The cost per cooperative education student placement.	\$510.63	\$573.54	\$282.00	\$333.33
5. The percent of co-op employers making job offers to cooperative education graduates.*	46.31%	35.31%	32.30%	100%

The results indicate that while most academic departments have co-op students (55.6%), the absolute percentage of students is quite small (4.37%). This accounts for what may seem to some as a relatively high average of \$511 ( $\bar{X}$  = \$510.63) for the cost of placing co-op students (total cooperative education budget/total number of cooperative education students on work assignments).

### **Purpose 4**

To assess whether or not organizational characteristics influence the director's leadership style, a canonical correlation was performed with

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\*Considered unreliable for further analysis due to amount of missing data.

leader's IS and C scores serving as the criterion (dependent) variables and the five factor analytically derived measures of structure plus placement in the institution and span of control serving as the predictor (independent) variables. The results were non-significant at the .05 level.

### **Purpose 5**

One-way analysis of variance (ANOVA) was applied to the means for two-year and four-year college directors' responses on each of the leadership style and organization structure variables.

Significant differences were noted only on the standardization and span of control measures  $F_{1,317} = 12.04, p < .00$ ;  $F_{1,124} = 7.05, p < .01$  respectively). Examination of cell means indicated that two-year colleges use standardized forms to a greater extent ( $\bar{X} = 4.16$  vs.  $\bar{X} = 3.29$ ) and that directors of two-year colleges have a greater span of control ( $\bar{X} = 15.62$  vs.  $\bar{X} = 8.38$ ). This suggests that the use of standardized forms/procedures allows for greater spans of control.

### **Purpose 6**

One way analysis of variance (ANOVA) was applied to the means on each of the leadership style and organizational structure variables for each of the six regions. Significant differences were noted only for the standardization and span of control measures ( $F_{5,138} = 2.86, p < .02$ ;  $F_{5,120} = 4.40, p < .00$  respectively). Post hoc analysis using Tukey's test revealed that using standardized forms for writing learning objectives was more prevalent in the Northwest ( $\bar{X} = 4.61$ ) than either the New England ( $\bar{X} = 3.14$ ) or North Central ( $\bar{X} = 3.32$ ) regions respectively. Also, that the span of control was significantly higher in the Northwest ( $\bar{X} = 22.95$ ) than any other region except the West (New England,  $\bar{X} = 7.74$ ; Middle States,  $\bar{X} = 9.38$ ; Southern,  $\bar{X} = 7.13$ ; North Central,  $\bar{X} = 7.71$ ). These results again support that the use of standardized forms/procedures allows for greater delegation.

### **Purpose 7**

A two-way Analysis of Variance (ANOVA) was used to test for differences among the six geographic regions or type of institution in terms of the director's leadership style and organizational characteristics on the program outcomes. There was a total of six statistically significant interactions found at the .05 level. Examination of the interactions resulted in no practically interpretable pattern, suggesting the interactions were artifacts of the data or that underlying variables not measured

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affected the interactions.

### **Purpose 8**

To assess whether or not organizational characteristics and the director's leadership style influence program outcomes, a canonical correlation was performed using the three outcome measures as the criterion variables and the organizational structure and leadership measures as the predictor variables. No statistically significant relations were found at the .05 level.

### **Exploratory Analysis**

Examination of the correlation matrix resulting from the canonical analysis revealed nine inter-item correlations above .15. There existed statistically significant interactions involving those variables in the correlation matrix. Path-Goal theory of leadership (House 1971) suggests that the more structured the environment, via standardization and formalization, the more effective will be a leader who is low on initiating structure and high on consideration styles of leadership.

To examine this possibility, moderated regression (Saunders, 1956) was used. Moderated regression is similar to multiple regression except that cross-product terms for any number of independent variables thought to interact are entering into the equation. The moderating effect is examined by comparing the multiple correlation coefficient ( $R^2$ ) of the equation without the cross-product terms(s) to the equation with the cross product terms(s). The increment in the  $R^2$  is then tested for statistical significance.

To test the moderating impact of organizational structure on the leadership style-program outcome relationship, a new scale was first created by summing the five factor analytically derived measures. This then represented the degree to which the organization was structured (i.e., "bureaucratized"). Step-wise multiple regression was then performed on each outcome variable using each dimension of leadership style (separately), the combined organizational structure variable, and the interaction between the two.

No significant interactions were observed, although there was a main effect for consideration on percent of co-op students ( $F_{1,94} = 7.41, p < .01$ ). Although this relationship was statistically significant, it accounted for only 7% of the variance ( $R^2 = .073$ ). Thus, 93% of the program variance was unexplained. Additionally, there was a main effect for standardization, coordinator schedules their own activities, on cost per

cooperative education student placement ( $F_{1,137} = 9.71, p < .00$ ). Again, although this relationship was statistically significant, it accounted for only 9% of the variance ( $R^2 = .091$ ). Thus 91% of the program variance was unexplained.

### Discussion and Conclusions

The wide variety of formal titles of respondent directors suggests a variety of assigned responsibilities in addition to cooperative education. While the respondent group represents experienced, educated and mature co-op directors, the low proportion (25%) of female directors suggests a continued imbalance of training and recruitment priorities. The large proportion of public institutions in the sample suggests that the costs of cooperative education programs tend to be more affordable at public institutions. However, as college budgets nationwide continue to be strained, efficient operation of cooperative education programs will see an increasing emphasis. Thus, the average cost per cooperative education student placement of \$511 will need, somehow, to be reduced.

The relatively low mean leadership style score of consideration and average initiating structure score suggests causal factors not measured in this study. Research is needed which will assist training programs to effectively assess and assist directors to enhance their leadership style.

The reported number of subordinates supervised by the director varied widely. However, there were 29% who reported supervising 10 or more subordinates. Coupled with expanded responsibilities, the effectiveness of the supervising director is weakened. It is recommended that the complex composition of tasks, subordinate specialization, and span of control be considered in the planning and change process to optimize the effectiveness of those who must implement the co-op program.

The placement of the cooperative education program was primarily (82%) within the academic part of the institution. However, the degree of integration within the academic organizational structure was not directly measured. A wide variety of centralized vs. decentralized co-op programs existed as identified by the location of cooperative education offices and perceived decision authority. Thus, there seems to be no pattern which relates to successful program outcomes.

Two of the five dependent variables were found to be unreliable because respondent directors did not report data which, from cooperative education literature, are assumed to be important program outcomes. Thus, (1) full-time academic faculty as part-time co-op coordinators and (2) the percentage of co-op employers who hire co-op grad-

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uates could not be reliably measured. Record keeping and reporting is an essential element in evaluating the achievement of goals. Co-op program outcome criteria need to be established in the goal setting process. It is recommended that directors re-assess their system and priorities for data collection and follow-up procedures.

While practical significant relationships were not found among the variables measured, several significant findings do have implications for improved program operation and future research.

1. No differences exist between directors' leadership style means between two-year and four-year college directors and among directors in six geographical regions.
2. Written learning objectives, a formalization variable, was higher in the Northwest region. Also, directors in the Northwest region had significantly larger span-of-controls. Thus, the more employees supervised, the more emphasis is placed on formal documentation of student learning objectives. This same finding holds for two-year college directors reporting larger span-of-controls and documented student learning objectives as opposed to four-year college directors.
3. The higher the leadership style of consideration the director has, the higher the proportion of students enrolled in the co-op program. While this factor contributes only 7% of the variance, this finding suggests further research in light of the comparatively low average consideration style score of the responding directors.
4. Less structure and greater autonomy of co-op coordinators to schedule their own activities have a relationship to increased costs per co-op student placement. Thus, program directors should assess the productivity of their coordinators in light of this finding.
5. A significant proportion of institutions and co-op programs lack formal organization charts and written procedures, rules, policies, and job descriptions. These findings suggest numerous areas for detailed research as well as further areas related to the evaluation and change process.

Exploratory research provides a beginning. For cooperative education as a strategic component of educational curricula, this study identifies several elements which should be addressed to assist in improving programs. More research is needed to focus attention more clearly on

success components of cooperative education programs. The innovation and leadership of members of the cooperative education community will determine the degree of success cooperative education has in the future. How the co-op community participates in research efforts and applies the findings of empirical research will, in the final analysis, be the measure of cooperative education as a viable academic entity.

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