

COMPARING PERCEIVED INNOVATIVENESS AND PER-
FORMANCE REVIEW RATINGS OF OKLAHOMA
COUNTY EXTENSION DIRECTORS

By

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COUNTY EXTENSION DIRECTORS

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PREFACE

This study is concerned with whether Oklahoma State University County Extension Directors are rewarded or punished administratively for displaying program innovativeness.

Within the past decade, county extension directors have been made responsible for developing and conducting a wide range of educational programs. These programs represent the entire range of subject matter from Oklahoma State University, thereby making Oklahoma State University Extension truly a "university extension" enterprise.

This study seeks to shed some light as to whether the administrative superiors of the county directors do provide encouragement to innovativeness in educational planning and programming displayed by county directors in their new job role.

Many persons made significant and helpful contributions to this project. I would like to take this opportunity to thank Dr. Walter J. Ward, director of journalism graduate studies for assistance and guidance.

I would also like to express gratitude to Dr. J. C. Evans, Vice President for Extension at Oklahoma State University, for making it possible for me to continue graduate study.

County extension directors of Oklahoma have shown helpfulness and consideration in interviews to gather data.

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Finally, it was my wife, Sandra, who provided that needed bit of encouragement and understanding that made this thesis possible. To her I express overwhelming appreciation.

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CHAPTER I

INTRODUCTION

Cooperative agricultural extension work in the United States was based on the foundations of the Smith-Lever Act, passed by Congress in 1914. This legislation provided that,

Cooperative agricultural extension work shall consist of giving instruction and practical demonstrations in agriculture and home economics and subjects relating thereto to persons not attending or resident in said colleges in the several communities, and imparting information on said subjects through demonstrations, publications, and otherwise, and for the necessary printing and distribution of information in connection with the foregoing; and this work shall be carried on in such manner as may be mutually agreed upon by the Secretary of Agriculture and the State agricultural colleges receiving the benefits of this Act.¹

The state agricultural college in Oklahoma, through which cooperative agricultural extension work was carried on, was the land-grant institution, Oklahoma A and M College.

The basic laws provide that extension work in each state shall be under the direction of a director of extension. Furthermore, the work shall be educational rather than regulatory in nature.²

¹ Lincoln David Kelsey and Cannon Chiles Hearne, Cooperative Extension Work (Ithaca, New York, 1963), pp. 31.

² Ibid., p. 38.

Subsequent congressional legislation provided for increases in funding to the Cooperative Extension Service. Beginning July 1, 1954, expanded allocations were designed to stimulate extension projects along three lines: on-the-farm counseling, public affairs and marketing.³

Several factors necessitated an increasing scope of educational activities. Agriculture was fast becoming a complicated business of production and marketing. Off-the-farm, agriculture-related business was growing to meet farmers' demands for goods and services. And urban residents were now utilizing the expertise of the extension service in such areas as horticulture and home economics.

A unique strength of the Cooperative Extension Service is the strong subject matter base in the colleges of agriculture and home economics, and in the research area of the land grant college. These disciplines within the institution provided needed backup and assistance to the extension staff in each county. The original Smith-Lever Act, along with subsequent legislation, provided the structure and the monies for this cooperative arrangement.⁴

And yet another strength in the arrangement of providing educational help to non-college residents of a state is the placement of county extension agents in the many counties of each state. Close relationships between extension agent and client is important in this informal educational work.⁵

³Ibid., p. 38.

⁴Ibid., pp. 46-49.

⁵Ibid., p. 51.

The increasing need for educational services to adults is becoming acute. There is increasing evidence that if the Cooperative Extension Service is to fulfill its mission as an arm of higher education, it must deal with more sophisticated subject matter in more and more specialized areas. At the same time, it must provide an integrating base in the management area of agriculture.⁶

In addition to, but not originally a part of the Cooperative Extension Service, most universities, including land-grant institutions, have conducted various programs of continuing education for adults who are not in college residence. These programs have been known by various names: "university extension," "continuing education," or "adult educational programs." Educational programs for adults date back to the early 1920's when the American Association for Adult Education was formed. In those days the primary concern was educational opportunities in literacy for foreign-born adults.⁷

At Oklahoma State University, the Department of Continuing Education worked largely in assisting normal-school teachers with graduate education requirements, and also with some correspondence course offerings. However, the work was expanding.

During the early 1960's, schemes for merging the extension functions within land-grant institutions were emerging. Land-grant universities were seen to have a rather specific commitment of service to the state--

⁶ Ralph E. Bender, Robert W. McCormick, Ralph J. Woodin, Clarence J. Cunningham and Williard H. Wolf, Adult Education in Agriculture, (Columbus, Ohio, 1972) p. 8.

⁷ Paul H. Sheats, Clarence D. Jayne and Ralph B. Spence, Adult Education (New York, 1953), pp. 1-4.

to serve, truly, as the "people's university" by extending the resources of the university to all of the state.⁸

In a significant position paper presented in 1963 at a national seminar on agricultural administration in the land-grant system, a committee of land-grant university presidents stated that, because of the success of the Cooperative Extension Service, they proposed a policy that the extension idea be broadened and extended to include more of the university--perhaps all of it. The land-grant presidents went on to say that accomplishment of this was a matter of decision for each university. However, it seemed that some means of association or coordination should be attained between the Cooperative Extension Service activities and other off-campus and extension teaching activities of the institution, whether these activities be classified as university extension, general extension, continuing education, or by some other name.⁹

Functions of the Cooperative Extension Service of Oklahoma State University and those of Continuing University Education were merged operationally in 1967. A vice president was named to head the newly-formed Extension Division. The vice president, Dr. J. C. Evans has two titles: Vice President for University Extension and Director of Cooperative Extension. Even though extension functions were merged at Oklahoma State University, the Smith-Lever Act still required that Cooperative Extension in each state be under the leadership of an extension director.

⁸E. T. York, Jr., "Coordinating Extension," Journal of Cooperative Extension, Vol. IV, (Summer, 1966) p. 69.

⁹Ibid., p. 70.

The structure whereby extension agents were residents of each of Oklahoma's counties was maintained. However the "county agent" title was replaced by "county extension director." Though the "county agent" and the "home demonstration agent" previously were co-equal in their respective county program assignments, the new county extension director was now administratively responsible for all other extension agents in his office, as well as for program planning, presentation and evaluation in all program areas.¹⁰

The county extension director, thus, was now administrator of extension programs--both cooperative extension and university extension--that came from the county OSU Extension Center.

For administrative purposes, Oklahoma counties are grouped into six extension districts, each under the supervision of a district extension director. Each county extension director is thus administratively accountable to a district director.

Certain definite responsibilities are assigned to each county extension director. Among these responsibilities are the following as regards programs and resources:

- A. Provide strong and forward-looking leadership, both in the short and long run, by engaging continuously in intensive analysis of relevant information and making decisions regarding:
 - (1) relative priority of programs in terms of scope, direction, timing, and opportunities for new educational programs, resources and services.

¹⁰Oklahoma State University Extension, University Extension Job Descriptions, (Stillwater, 1972.)

- (2) resource needs, sources of resources, and division of resources, including dollars, personnel, facilities, and equipment (fiscal management.)¹¹

In other words, each county extension director is charged with helping people in his county determine needs, problems and opportunities; helping plan educational programs to meet those needs, problems and opportunities; and then helping present the specific educational programs and evaluating their effectiveness.¹²

Vice President Evans testified before a U.S. Department of Agriculture Subcommittee meeting at Oklahoma State University Sept. 9, 1971. When Committee member Sen. Henry Bellmon asked Evans what he thought extension was, Evans replied, "Extension is helping people learn what they want to know."

Heretofore, county extension directors had been responsible for teaching and disseminating material largely related to agriculture. Now they were suddenly thrown into an administrative responsibility for the university-wide extension enterprise in their counties. All directors had agriculture degrees. All had joined the Cooperative Extension Service on the basis of those degrees. But now they were being told to help all people with all kinds of educational programs; agriculture and home economics, as well as business, education, engineering, arts and sciences and veterinary medicine.

Educational programs for new audiences not only means working in a

¹¹Ibid.

¹²J. C. Evans, Program Planning, (Oklahoma State University, 1966.)

new subject matter area. These educational programs must be "sold" to new audiences, and new media must be utilized for their presentation. The county director now could consider using planning groups, more attractive group meetings for teaching, radio, television, newspapers media advertising and personal calls on clients.¹³

To do the most efficient job of administering this growing educational institution, the county extension director must display a great deal of innovativeness. He must ever be on the lookout for new innovations and concepts in educational programming, and he must adopt those successful innovations and concepts to his own situation.¹⁴

Schramm suggests that informal educational programs require a greater deal of innovativeness on the part of the educator than programs in the common formal setting. He also indicates that opportunities are possibly greater.¹⁵

If there is a great need for individual innovativeness as to ideas and concepts of adult education with the Oklahoma State University Extension Division, are those innovative county extension directors rewarded or punished by their administrative superiors?

This study sought to determine the relationship between those county extension directors in Oklahoma who are perceived by their peers as innovative, and the performance review rating of those county extension

¹³Randall Barnett and Logan Louderback, "When Organizations Change," Journal of Extension, Vol. IX, (Summer, 1971), pp. 9-15.

¹⁴L. C. Paul, "Is the Innovator Dead," Journal of Extension, Vol. VII, (Spring, 1970), pp. 6-10.

¹⁵Wilbur Schramm, Classroom Out-of-Doors: Education Through School Camping, (Kalamazoo, Michigan, 1969.)

directors, as made by their administrative superior.

An annual performance review of each county director's work is made by the supervising district director. The performance review comprises 7-point rating scales covering 17 trait areas. Those trait areas include: (1) Technical Ability, (2) Leadership Qualities, (3) Production, (4) Initiative, (5) Judgment, (6) Decisions, (7) Organization, (8) Adaptability, (9) Tact, (10) Oral Communications, (11) Written Communications, (12) Working with Others, (13) Supervision, (14) Using Instruction, (15) Dependability, (16) Over-all Performance, and (17) Progress During the Year.

Because the district extension director is responsible for promotions, transfers, salary administration and exits (both voluntary and involuntary), and because performance evaluation provides one very real key to the administration of those responsibilities, a comparison of performance review results and perceived innovativeness of county directors would seem to be helpful.

Does the administration of the performance review result in lower over-all ratings for those county directors perceived by their peers to be more highly innovative?

Does the district director, in completing a performance review of a county director tend, either intentionally or unintentionally, to punish the innovative persons by giving them a lower over-all rating?

Review of Literature

Innovators are the first to introduce new ideas or practices. Lionberger¹⁶ writes that one of the functions of innovators is to be

¹⁶Herbert F. Lionberger, Adoption of New Ideas and Practices, (Ames, Iowa, 1960), pp. 53-55.

"watched." They assume risks that others are not willing to take, and they provide the local trial necessary for legitimation in the eyes of persons more skeptical or cautious than themselves about new methods and practices.

Beal and Bohlen see innovators as mentally alert and actively seeking new ideas about farming. They often go directly to college and industrial sources for information.¹⁷

Rogers¹⁸ is more specific in his definition of innovativeness. He says that innovativeness is the degree to which an individual is relatively earlier in adopting new ideas of his social system. He defines a social system as a population of individuals who are functionally differentiated and engaged in collective problem-solving behavior.

There is also innovativeness exhibited by groups, as well as individuals. Rogers¹⁹ reports that business firms can be rated as to innovativeness. Factors found to be related to this trait include: (1) a favorable attitude toward progress, (2) cosmopolitanism of executives, and lack of secrecy, (3) adequate information sources of the firm, (4) a high growth rate for the firm, and (5) lack of "shop-floor" resistance to innovations by foremen and unions.

Other social systems, such as educational systems or societies, also exhibit varying degrees of over-all innovativeness, as compared

¹⁷G. M. Beal and J. M. Bohlen, The Diffusion Process, (Iowa Agricultural Extension Service, 1957.) Report 18.

¹⁸Everett M. Rogers, Diffusion of Innovations, (New York, 1962.) p. 19.

¹⁹Ibid., p. 44.

with other groups within the system.²⁰ Thus one school system may be perceived as being more innovative than another. Or a particular society may be more innovative than another like group.

There is no clear-cut evidence that innovative behavior by an individual or a group is completely consistent.²¹ One research study in 1960 found that families who adopted one consumer innovation such as air conditioning were likely to adopt other consumer innovations. Another study showed that farmers who had adopted soil conservation innovations had also adopted livestock feeding ideas and also crop innovations. There is much less evidence, however, that a farm innovator, for example, is also an innovator in political ideology, consumer behavior, or other areas of life.

Innovativeness among individuals within a social system may be related to the view that the social system, as a whole, holds with regard to innovativeness. Habit and tradition of the social system are variables which can affect the rate of individual innovativeness, as well as the speed and the degree with which the innovation spreads throughout the system.²² Rogers, for the sake of clarity in presentation, describes an "innovativeness continuum." This continuum would have the traditional society at one end, and the modern social system at the other. Persons in the traditional system do not meet new individuals, recognize new roles, or learn new social relationships. Hence, there is little need

²⁰ Ibid., pp. 21-52.

²¹ Ibid., pp. 64-65.

²² Ibid., pp. 62-75.

for, or acceptance of innovations. The modern system, on the other hand, is one in which there is great stress placed on new ideas, new concepts, and upon planning and means to reach desired ends. Innovations are welcomed and rather quickly adopted by others within the modern social system.

Therefore, the system itself, according to its own habits and traditions, helps determine innovativeness of individuals, and acceptance and subsequent adoption of those innovations.

The social factors of habit and tradition, whether expressed loudly or as an undercurrent of "feeling," provide a means for innovativeness or the lack of it.²³ This is true, whether the social system is a community or an organization.

However, within organized social groups such as societies, business organizations or educational systems, another means can be used either to stifle or encourage innovativeness and adoption of innovations. This comprises the personnel evaluation.²⁴ Writing about the personnel evaluation or performance appraisal, Durfee indicates that appraisals should measure some real accomplishment, and thus provide encouragement to the worker by higher ratings for work actually planned and accomplished. Durfee says that one commonly used system of personnel evaluation by means of traits, such as leadership, initiative, intelligence, dependability, cooperation, etc., has the inherent problems of the "halo"

²³ Bruce L. Melvin, "The Rural Neighborhood Concept," Rural Sociology, Volume 19, December, 1954. pp. 371-76.

²⁴ Arthur E. Durfee, "Helping Others Improve Performance," Journal of Extension, Volume VIII, Summer, 1970. pp. 18-25.

effect, the question of trait relevance, the emphasis on conformity, and the problem that the definition of the trait is not commonly used by all of those making the evaluations.

Thus it can be seen that an individual who is being evaluated in a system, could very possibly receive a low rating on a "cooperation" trait rating scale if that individual showed innovativeness to the dislike of the organization or of the evaluator. And it would take only a few such low ratings to get the individual back into line.²⁵

Personnel evaluation must come from an "administrative climate" which helps the organization function at its peak, and in which employees find satisfaction, reward, and challenge in their efforts, and make their efforts, and make their optimum contribution, according to Bruce and Carter. They also make the provocative statement, "Management gets what it inspects."²⁶

Bruce and Durfee²⁷ write that innovativeness might be better measured in an employee, if the supervisor and the employee set realistic, attainable goals at the outset. Innovativeness will then be measured, not directly, but as one of the inputs of the employee in reaching the set goal. Innovativeness would thus be a factor in the employee, or extension agent's, working to determine real needs of the clientele; and then in working with the supervisor to determine reachable goals of the

²⁵ Laurel K. Sabrosky, "Evaluation," The Cooperative Extension Service, ed. H. C. Sanders, (Englewood Cliffs, New Jersey, 1966) p. 339.

²⁶ R. L. Bruce and G. L. Carter, "Administrative Climate," Journal of Cooperative Extension, Volume 5, (Spring, 1967, p. 8.).

²⁷ R. L. Bruce and A. E. Durfee, "Performance Appraisal," Cornell Extramural Course, Educ. 523.

educational program; in packaging the educational program for most impact; and in making realistic evaluation of the program.

Such a system, according to Durfee, would more likely recognize the innovative individual and provide the rewards to him as a result of higher performance appraisals.²⁸

Strother²⁹ makes a strong emphasis for the organization (such as a university extension service) to undertake a positive innovative stance, and thus to allow the individual within that organization to display innovativeness. He writes that innovativeness entails inherent dangers, yet the climate of the management must allow for that innovativeness. With organizations, as with individuals, staying alive is not enough. Living up to one's potential is more important in spite of the additional risk it entails. Archaic organizations, like species of animals, respond to periods of rapid environmental change by extinction or by finding some sheltered ecological niche. Only organizations with a well developed capacity to innovate and adopt can remain in the mainstream of life and survive.

Not only is there the possibility that innovators within a social system are stifled or discouraged by superiors from making innovative advances, there is the possibility that the innovator is regarded as "different" or "strange" by others within the system. As such they may not enjoy the highest status.³⁰

²⁸ Ibid.

²⁹ George B. Strother, "Creativity in the Organization," Journal of Cooperative Extension, Volume 7, Spring, 1969. p. 7-16.

³⁰ E. A. Wilkening, "Informal Leaders and Innovators in Farm Practices," Rural Sociology, Volume 17, (September, 1952), p. 272-75.

Lionberger³¹ says that distrust of the innovator is particularly great in systems where norms are not favorable to substantial changes.

But Bruce and Carter³² assert that within a system such as a university extension, the "administrative climate" can help to create the norm which makes substantial change legitimate--or even necessary. And when that climate is created, the innovator tends to become a greater source of legitimate ideas for others within the system.

Litwin and Stringer³³ also argue that the organizational climate is subjectively perceived or experienced by the members of the organization. This organization can then promote its own ends by using the created environment to motivate employees. Employees who are rewarded for certain actions become the signposts for others to follow.

From cues supplied by these researchers, this author set out to investigate further "individual innovativeness and the organization."

³¹Herbert F. Lionberger, Adoption of New Ideas and Practices, (Ames, Iowa, 1960), p. 54.

³²R. L. Bruce and G. L. Carter, "Administrative Climate," Journal of Cooperative Extension, Volume 5, Spring, 1967), p. 8.

³³George H. Litwin and Robert A. Stringer, Motivation and Organizational Climate, (Boston, 1968), p. 65-72.

CHAPTER II

METHODOLOGY AND DESIGN

In this study, the author constructed a rating instrument by which Oklahoma State University County Extension Directors could be rated as to how they were perceived on relative innovativeness.

The results of this relative innovativeness ranking were compared with the ratings those county extension directors had received on their most recent performance review. Peer county directors were asked to make the innovativeness rating. The six supervising district extension directors already had made the performance review ratings of the county directors in their respective Extension districts.

The independent variables in this study were the innovativeness ratings and the performance review ratings. The dependent variable was the effect or the relationship produced by those independent variables.

From the literature, innovativeness was considered to comprise three facets: the active seeking of new ideas and concepts, the early adoption of the new ideas and concepts, and the status the innovator's peer group assigns to him as a source of new ideas and concepts.

Each of the 51 county extension directors was rated on a 7-point rating scale for each of the facets, relative to the other county directors. A single relative innovativeness index was then computed. It was the mean of the three facet ratings.

Because the innovativeness rating was derived from the three facets:

actively seeking new ideas, early adoption of new ideas, and perception by peers as a source of information about new ideas, and because these innovativeness ratings were made by peer county extension directors, it was possible to determine the relationship between, (1) A county director's active seeking and early adoption of new ideas, and, (2) the relative degree to which that county director is perceived to be sought by his peers for innovative information.

The study of this relationship comprises the second problem of the study.

In other words, what relationship exists between the county director who is perceived actively to seek and to adopt new ideas early, and that county director's perception as an actively sought-for source of information about new ideas.

In this second problem of the study, the independent variables were, (1) the mean score of the combined ratings of actively seeking information and early adoption of new ideas, and, (2) the rating as to relative degree of being sought for information about new ideas. The dependent variable was the relationship between the two independent variables. Both independent variables are derived from the instrument completed by peer county directors.

Definition of Terms Used

Operational definitions of the terms used in this study are as follows;

A. Relative Innovativeness: Comprises three facets;

- (1) Relative degree to which the county director is perceived by peer county directors as actively seeking new ideas

about educational programs for extension.

- (2) Relative time at which the county director is perceived by peer county directors as adopting new ideas about educational programs for extension.
- (3) Relative degree to which the county director is perceived by peer county directors as being actively sought for information about new ideas for educational programs for extension by other extension workers.

Each of the three facets was measured for each county extension director by peer county directors by means of a 7-point rating scale. Relative Innovativeness, then, was the mean score of the three rating scales. A rating of 1 on the scale indicated, in each case, "very little;" a rating of 7 indicated "very much."

- B. Performance Review or Performance Appraisal: The performance review rating used was the standard annual appraisal form employed by Oklahoma State University Extension. The latest appraisals available were for the year 1970, and completed in 1971. The performance review is an instrument that is used to measure 17 traits by means of a 7-point rating scale for each trait. Traits measured include;
- (1) technical proficiency
 - (2) leadership qualities
 - (3) production
 - (4) initiative
 - (5) judgment
 - (6) decisions

- (7) organization
- (8) adaptability
- (9) tact
- (10) oral communications
- (11) written communications
- (12) working with others
- (13) supervision
- (14) using instruction
- (15) dependability
- (16) over-all performance
- (17) progress during the year

The term "Over-all Performance Review Rating" used in this study was the mean of the 17 trait ratings for each county extension director.

Method of Obtaining Data

In this study, the author obtained data for subsequent analysis in the following manner;

- A. Innovativeness Ratings. Twenty-one Oklahoma State University County Extension Directors, chosen randomly, were asked to complete the three innovativeness rating scales for each of 51 County Extension Directors for which performance reviews were available.
- B. Performance Reviews. The 51 performance reviews of the 51 County Extension Directors in the study were obtained from the office of the Coordinator of Personnel Development, Oklahoma State University Extension. After the innovativeness rating

scales and the performance reviews were obtained, the County Directors in the study were assigned numbers so that anonymity could be maintained; names were no longer used.

Hypotheses

In this study, the author has attempted to determine the relationship between the relative innovativeness of Oklahoma county extension directors as perceived by their peer county directors, and the performance review ratings the county extension directors were given by their administrative superiors, the district extension directors.

The author also has attempted to find the relationship between those County Directors who are perceived to be among the first to adopt new ideas about educational programs for extension, and the relative degree to which they would be sought for new ideas by their peer county directors.

Therefore, the following hypotheses are presented;

Hypothesis I. Those county extension directors who fall in the top third on mean perceived innovativeness would have lower ratings on performance reviews than those county directors classified as to middle or low innovators.

Hypothesis II. Oklahoma county extension directors who are among those perceived to be in the first third in ranking of the combined ratings as to early seeking and early adoption of new educational ideas and practices, are those less sought for ideas and practices about educational innovations by peer county extension directors than the less active seekers and later adopters.

Methods of Statistical Analysis

One main objective of this study was to determine the relationship between innovativeness and the performance review.

To perform this test, the county extension directors were ranked according to the mean innovativeness the 21 county directors assigned to them on all three facets of the innovativeness rating scale. The county directors then were split into high, middle and low innovativeness groups. Each director's performance review rating then was paired with his mean innovativeness score.

An analysis of variance then was used to show any significant differences among the three groups of performance review.

A model of the paradigm used in this test is shown in Figure 1 which follows. Variation in performance review ratings of the top, middle and low innovators among the county directors was analyzed to detect any differences beyond chance.

Another objective in the study was to determine the relationship between early seekers and adopters of educational innovations and the degree to which their peer county directors would be perceived to actively seek information about educational innovations from them.

In this case, the 51 directors were divided into high, middle and low groups, based on their mean score from the first of two facets of the innovativeness rating scale which dealt with actively seeking information and early adoption of new ideas. The rating from the third facet of the innovativeness rating scale, actively sought for information, was assigned to the respective county director. In this paradigm, the "actively sought for information" rating scores were compared.

Each of the three "early adoption" groups mean "information-seeking"

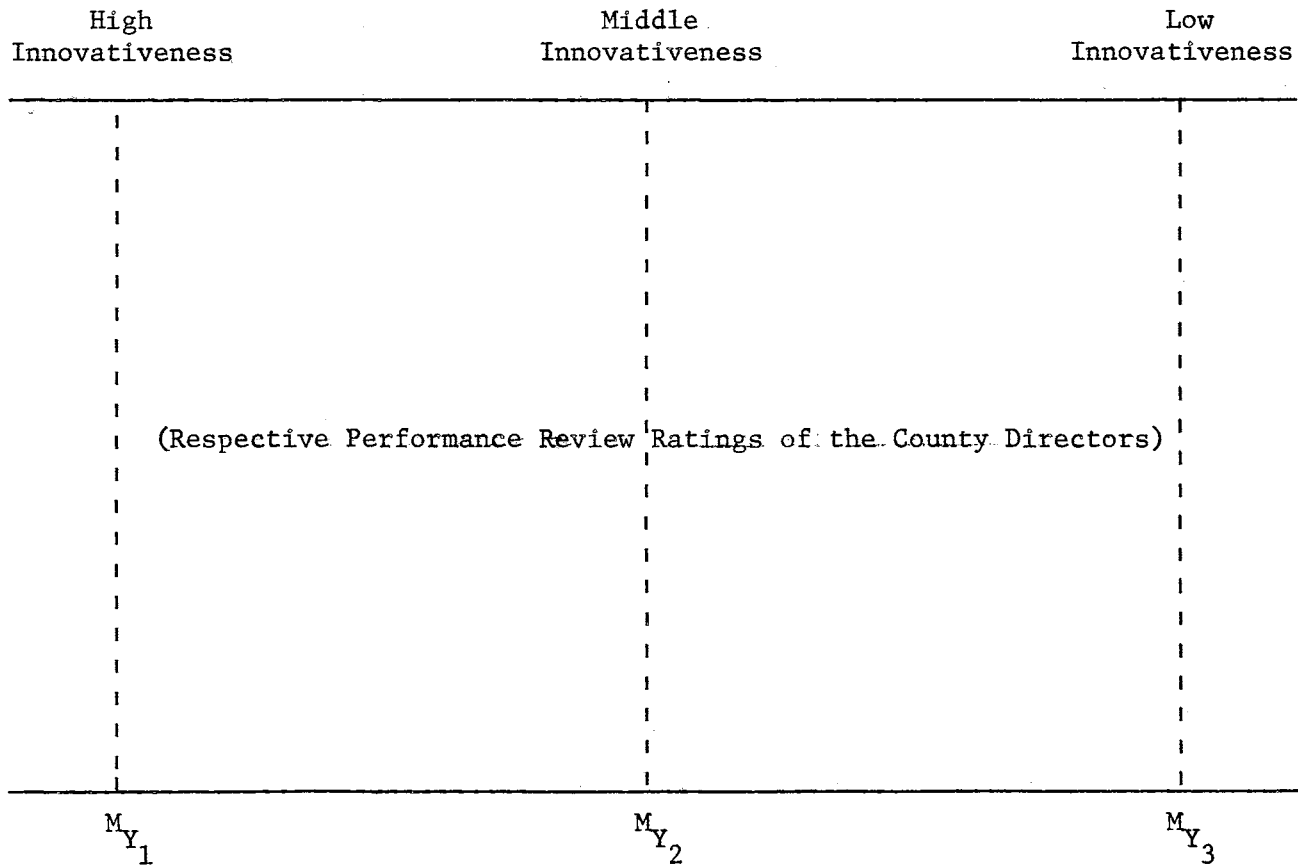


Figure 1. Analysis of Variance Paradigm to Determine Relationship Between Innovativeness and Performance Review

scores, then, were variance analyzed. The "information-seeking" scores were obtained from the third part of the innovativeness scale.

In other words, this second objective sought to determine if seeking information and adoption of new ideas were related to a director's being sought out for information. Put another way: "Is information-seeking positively correlated with being sought as an information source?"

A model of the paradigm is shown in Figure 2.

What is the purpose of comparing personnel innovativeness and performance reviews?

Rogers, it will be remembered, defined a model "innovativeness continuum." At one end of his continuum was the traditional society, marked by persons within the society who do not meet new individuals, recognize new roles or learn new social relationships. And at the other end of Rogers' continuum was the modern society that placed great stress on new ideas, new concepts, and upon planning and means to reach desired ends.

Other researchers, among them Bruce, wrote of the social factors within a social system that provide a means for innovativeness, or for the lack of it.

It, therefore, is this author's opinion that if one can determine that innovative persons within a system go unrewarded officially by being given low review ratings, or if the innovators' peers do not consider them credible sources of information, that system would tend to be less innovative as a whole. The social factors, then, within the social system marked by these less innovative views would not provide a means for "modernization" according to Rogers' continuum.

In one sense, then, the very low-innovative social system would

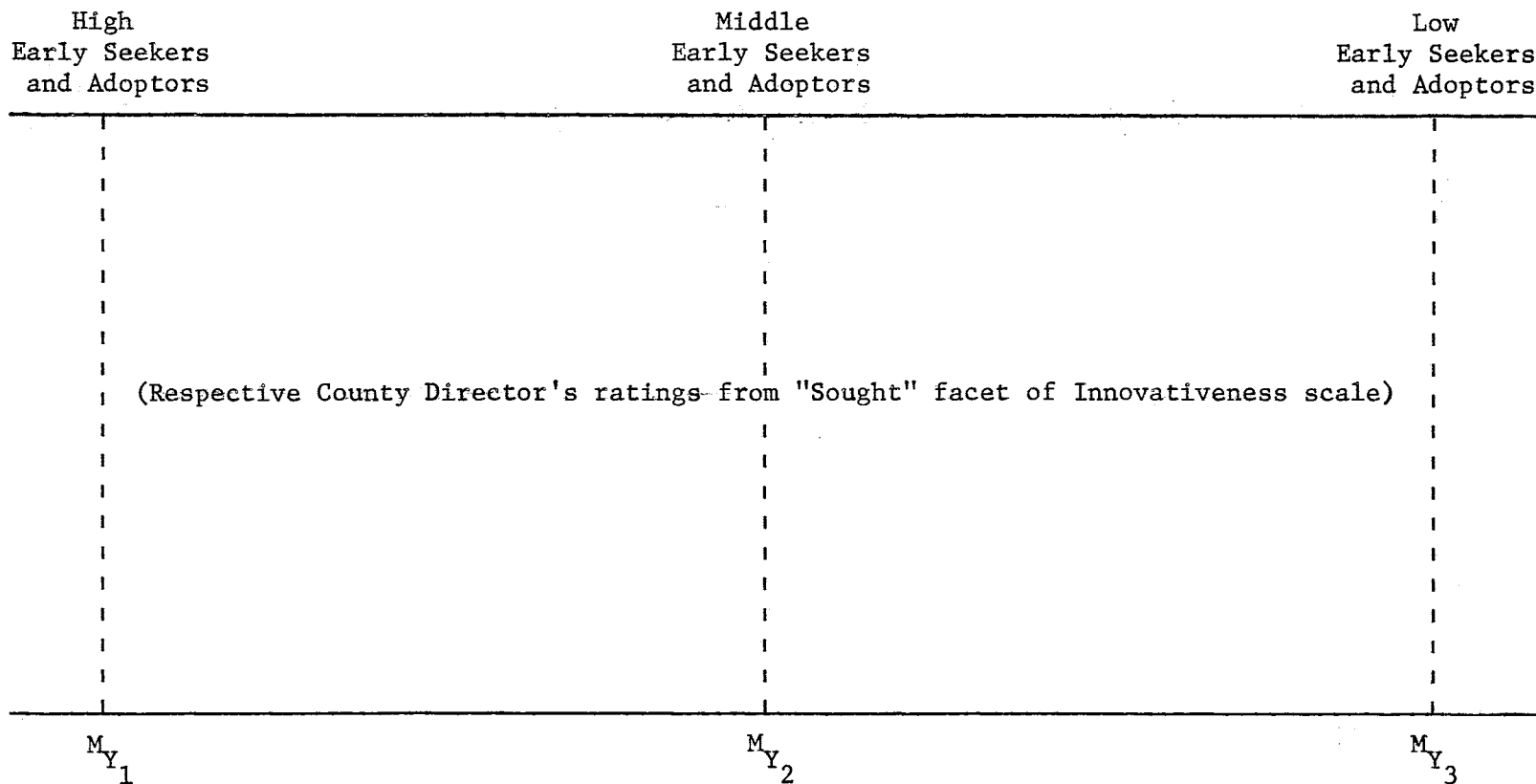


Figure 2. Analysis of Variance Paradigm to Determine Relationship Between Early Seeking Adoption of Ideas and Being Sought for Information and Ideas

tend to wither, or become less reactive to its environment.

That very low-innovative system might be analagous to a bacterial culture grown in a highly beneficial environment in an agar medium. At first the bacteria are seen to grow and multiply profusely. Then, as toxins produced by the bacteria themselves accumulate, the culture's growth slows, and may even stop. In fact, the culture may even die-- "stewing in its own juice."

This study of the relationship between perceived innovativeness and rewards within University Extension in Oklahoma was centered on the county extension director. This was done because the county director holds a key role in delivering educational programs to the people of the state. That county director is a specialist in one or more subject matter areas (agriculture, horticulture, agronomy or animal science, usually). He also is an administrator responsible for the programs, personnel and finances of his County OSU Extension Center. This position traditionally has been one of key importance.

Therefore, a study of the relative perceived innovativeness of county extension directors and the several rewards or punishments afforded them would provide a view as to the over-all innovativeness of the social system of Oklahoma State University Extension.

TABLE I
PERFORMANCE REVIEW RATINGS OF 51 COUNTY DIRECTORS IN 17 TRAIT AREAS FOR THE 1970 YEAR'S WORK

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total Score	Mean Individual Score	
	County Extension Director	1. Technical Proficiency	2. Leadership Qualities	3. Production	4. Initiative	5. Judgment	6. Decisions	7. Organization	8. Adaptability	9. Tact	10. Oral Communications	11. Written Communications	12. Working With Others	13. Supervision	14. Using Instruction	15. Dependability	16. Overall Performance	17. Progress During the Year		
11	5	5	5	5	6	6	5	5	5	5	4	5	4	5	6	5	5	87	5.12	
12	5	6	6	5	6	5	6	5	6	6	5	5	5	5	6	6	6	95	5.59	
13	5	6	6	5	6	6	6	5	5	5	5	5	5	6	6	5	91	5.32		
15	6	6	6	5	6	6	6	6	6	5	6	6	6	6	6	6	100	5.88		
18	6	6	6	5	6	6	6	5	6	5	5	6	5	5	6	6	96	5.65		
19	5	5	5	6	6	6	5	5	5	6	5	6	5	5	6	6	93	5.47		
21	6	6	5	5	6	5	5	5	6	4	5	6	5	6	6	5	92	5.41		
24	5	5	5	6	6	6	6	6	5	7	5	6	7	6	7	6	100	5.88		
25	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	98	5.76		
26	7	6	7	6	6	6	6	6	6	6	6	6	6	6	6	6	104	6.12		
27	6	6	6	6	6	6	6	6	6	5	6	6	6	6	6	6	101	5.94		
30	6	6	6	6	6	7	6	6	6	5	5	6	6	5	6	6	99	5.82		
31	6	6	6	6	6	6	6	6	6	5	5	6	6	6	6	7	101	5.94		
32	6	6	6	6	7	6	6	5	6	6	6	6	6	6	6	6	102	6.00		
35	6	6	6	6	7	6	6	5	5	5	5	5	5	4	6	6	96	5.65		
36	6	6	6	6	6	7	6	5	6	6	7	6	6	6	7	6	104	6.12		
37	6	6	7	6	6	7	7	6	6	7	6	7	6	6	7	6	108	6.35		
38	5	4	5	5	6	6	5	6	5	4	4	6	5	5	6	5	87	5.12		
39	5	6	5	5	6	4	5	5	6	6	6	6	5	6	6	5	93	5.47		
40	6	5	5	5	6	6	6	5	6	5	5	6	6	6	6	5	96	5.65		
41	6	6	6	6	6	6	6	6	6	6	6	6	5	6	6	6	101	5.94		
42	4	4	4	5	4	4	3	4	4	4	4	5	4	4	5	3	69	4.06		
45	5	7	6	7	6	6	6	6	6	6	6	7	6	7	7	6	106	6.24		
46	6	6	5	6	6	6	5	6	6	5	6	6	6	5	6	5	97	6.12		
47	6	6	6	6	7	6	6	6	6	6	6	6	6	6	7	6	104	6.12		
48	6	5	6	5	6	5	5	6	6	6	6	6	6	5	6	6	97	5.71		
50	5	5	5	5	6	5	5	5	6	6	5	6	5	5	6	6	92	5.41		
51	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7	6	102	6.00		
52	5	6	6	6	6	6	6	6	5	5	5	6	6	6	6	6	98	5.76		
53	6	5	6	6	6	5	5	6	6	6	6	6	5	5	6	6	97	5.71		
54	6	6	6	5	6	6	5	5	6	6	6	6	5	7	6	6	98	5.76		
56	5	5	5	6	4	5	5	6	4	4	5	5	4	5	6	5	84	4.94		
57	6	6	6	6	6	6	6	6	6	6	6	6	6	4	4	6	98	5.76		
58	5	5	6	6	6	5	5	6	5	5	6	5	5	6	6	6	94	5.52		
59	5	4	5	4	5	5	5	6	5	5	5	6	4	5	6	5	85	5.00		
60	6	6	6	6	6	6	7	6	7	6	6	7	5	7	7	7	107	6.29		
61	6	6	6	6	6	6	6	7	6	6	6	7	6	7	7	6	106	6.24		
62	6	6	5	6	6	5	6	6	5	6	5	6	5	5	6	7	97	5.71		
64	6	5	6	5	6	5	5	6	6	6	5	6	5	5	6	6	95	5.59		
66	6	6	6	6	7	6	6	5	6	6	6	7	6	6	7	6	105	6.17		
68	5	5	5	5	5	6	6	4	6	5	5	5	4	6	6	6	87	5.12		
72	7	6	6	7	6	6	6	7	6	5	6	6	6	6	7	6	105	6.18		
73	6	5	5	5	5	4	5	5	5	5	5	6	5	5	5	5	86	5.06		
74	6	6	6	6	6	6	6	6	6	5	6	6	7	6	7	6	103	6.06		
76	6	6	6	6	6	6	6	5	6	7	6	6	4	6	6	6	99	5.82		
77	5	6	6	7	6	6	7	6	6	6	6	6	6	6	7	6	104	6.12		

TABLE II
SCORING OF THE AREAS OF THE PERFORMANCE APPRAISAL

Area	Total Score	Mean Score
1. Technical Proficiency	288	5.65
2. Leadership Qualities	289	5.67
3. Production	290	5.69
4. Initiative	305	5.98
5. Judgment	295	5.78
6. Decisions	292	5.72
7. Organization	289	5.67
8. Adaptability	297	5.83
9. Tact	287	5.63
10. Oral Communications	612	5.61
11. Written Communications	287	5.46
12. Working With Others	306	5.99
13. Supervision	277	5.43
14. Using Instruction	286	5.61
15. Dependability	314	6.15
16. Overall Performance	293	5.74
17. Progress During the Year	296	5.80

CHAPTER III

THE PERFORMANCE REVIEW

In the case of county extension directors, their annual evaluation or performance review is completed by their administrative superiors, the district directors. Each district director evaluates those county directors within his own district.

For this study, the most recent performance review was used. This was performed in 1971 for the 1970 year's work. Of the 77 Oklahoma counties, only 51 performance appraisals were on file.

In the performance appraisal instrument, 17 trait areas are measured, each on a 7-point rating scale. On that scale, 1 indicates weak; 7 indicates outstanding.

Table I, page 25 presents the results of all 51 county extension director performance reviews in this study. Ratings in each of the 17 trait areas are given for each of the 51 county directors, along with each director's total and mean score. The mean score is used to indicate the over-all mean innovativeness rating for each county director. And the mean score was used in this study to determine the relationship between performance review ratings and relative innovativeness.

Appendix, page 59 contains the performance review form and rating scale.

The seventeen 7-point performance review rating scales enabled the author to examine over-all agreements and differences among the 17 scales

representing county director traits.

Correlation and elementary linkage analyses (a form of factor analysis) were used to isolate trait clusters among the 17 scales.

Linkage analysis indicates commonalities of traits being measured, observing which of those traits "cluster together."

According to Kerlinger, "Factor analysis is a method of determining the number and nature of the underlying variables among large numbers of measures."¹ If it can be shown that a number of the traits being measured "cluster together," they are, in effect, telling the same thing about a person.

Kerlinger states, "Factor analysis serves the cause of scientific parsimony. Generally speaking, if two tests measure the same thing, the scores obtained from them can be added together. If, on the other hand, the two tests do not measure the same thing, their scores cannot be added. Factor analysis tells us, in effect, what tests or measures (in this case, traits) can be added and studied together rather than separately."² Thus, factor analysis limits the number of variables with which the scientist must cope.

Correlation and linkage analysis would, thus, indicate the "clusters" in which the measured traits of the performance review were falling. This would indicate that the clusters of traits were measuring, statistically, the same thing. With this knowledge, a fewer number of trait ratings could be administered by means of the performance review.

¹Fred N. Kerlinger, Foundations of Behavioral Research, (New York, 1966), p. 650.

²Ibid.

In Table III, page 30, a correlation matrix of the seventeen traits is presented. Linkage analysis begins with the correlation matrix. In Table III, the underlined correlations in each column represent the first step in McQuitty's analysis.³ Clusters of traits are derived from the highest correlations in each column.

The underlined correlation identifies the trait that is most like the trait for that column. For example, in the first column the highest correlation is .60 between trait 1 (Technical Proficiency) and trait 3 (Production.) In each column there will be one or more correlations which are the highest in that column.

McQuitty calls those pairs of traits that have the highest correlation with each other reciprocal pairs. To those traits are then linked other traits, according to highest correlations.⁴

The linkage analysis, Table IV, located five clusters of traits according to the performance review ratings (Table IV). Type I cluster included eight of the seventeen traits; adaptability, over-all performance, decisions, technical proficiency, production, progress during the year, written communications and judgment. Type II cluster included oral communications, leadership qualities and initiative. Type III cluster singled out the traits of using instructions and dependability. Type IV cluster showed the traits of tact and working with others. And type V cluster included organization and supervision.

³ L. McQuitty, "Elemental Linkage Analysis for Isolating Orthogonal and Oblique Types and Typal Relevancies," Educational and Psychological Measurement, XVII (1957), p. 207-229.

⁴ Ibid.

TABLE III

CORRELATION MATRIX: 17 FACTORS OF PERFORMANCE REVIEW

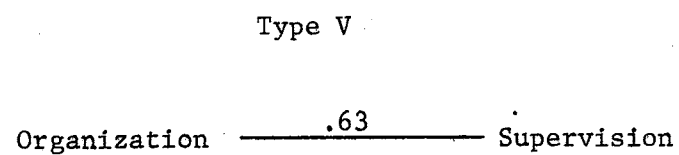
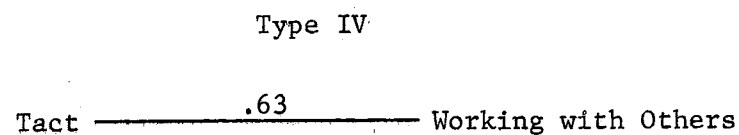
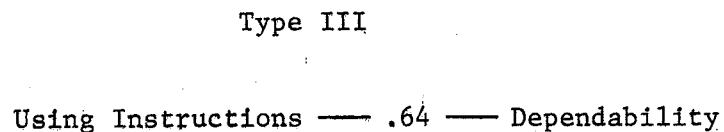
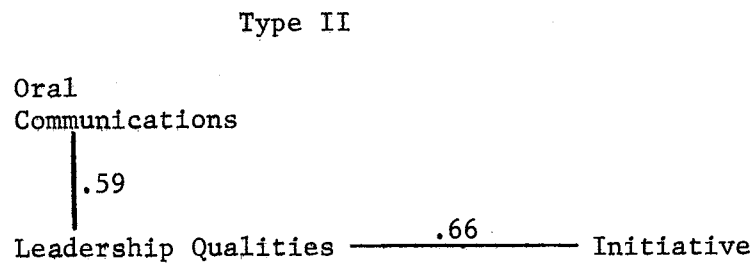
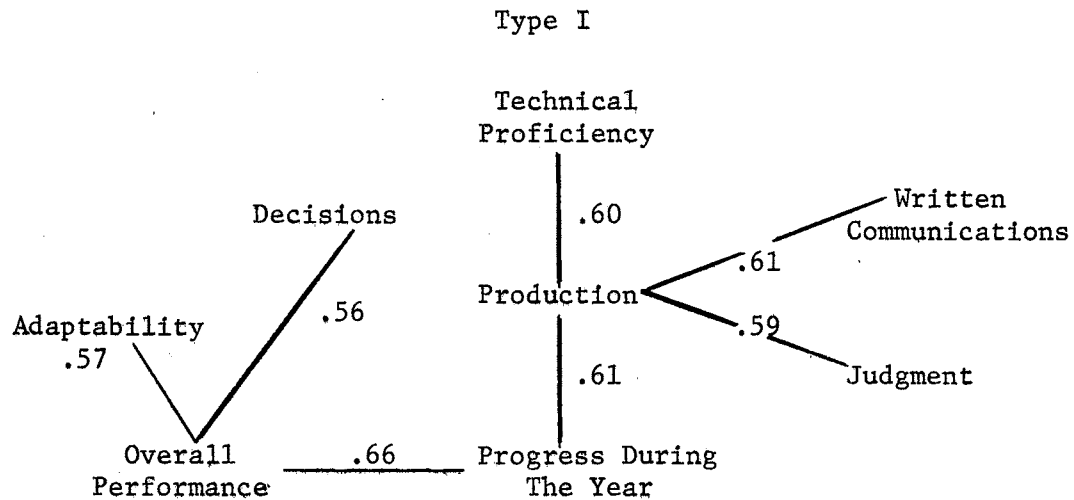
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1		.41	.60	.25	.39	.38	.44	.44	.25	.47	.43	.25	.45	.17	.12	.53	.38
2	.41		.46	.66	.48	.51	.46	.30	.32	.59	.46	.25	.52	.42	.33	.56	.54
3	.60	.46		.41	.59	.53	.54	.48	.48	.52	.61	.39	.51	.40	.34	.56	.61
4	.25	.66	.41		.29	.46	.46	.26	.20	.40	.35	.22	.42	.19	.43	.39	.51
5	.39	.48	.59	.29		.53	.45	.26	.56	.50	.35	.40	.53	.35	.37	.54	.55
6	.38	.51	.53	.46	.53		.49	.49	.39	.33	.35	.41	.46	.49	.46	.56	.37
7	.44	.46	.54	.46	.45	.49		.44	.34	.37	.57	.47	.63	.41	.41	.56	.57
8	.44	.30	.38	.26	.26	.49	.44		.14	.21	.31	.36	.26	.33	.37	.57	.36
9	.25	.32	.48	.20	.56	.39	.34	.14		.50	.47	.63	.31	.31	.25	.43	.56
10	.47	.59	.52	.40	.50	.33	.37	.21	.50		.56	.34	.38	.22	.33	.58	.55
11	.43	.46	.61	.35	.35	.35	.57	.31	.47	.56		.50	.56	.55	.45	.48	.53
12	.25	.36	.39	.22	.40	.41	.47	.36	.63	.34	.40		.52	.47	.51	.46	.49
13	.45	.52	.51	.42	.53	.46	.63	.26	.31	.38	.56	.52		.34	.38	.45	.49
14	.17	.42	.40	.19	.35	.49	.41	.33	.31	.22	.55	.47	.34		.64	.37	.28
15	.12	.33	.34	.43	.37	.46	.41	.37	.25	.33	.45	.51	.38	.64		.38	.37
16	.53	.56	.39	.54	.56	.56	.56	.57	.43	.58	.48	.46	.45	.37	.38		.66
17	.38	.54	.61	.51	.55	.37	.57	.36	.56	.55	.53	.49	.49	.28	.37	.66	

Levels of significance: r of .606, $P < .01$; r of .482, $P < .05$

Explanation of coding used:

- | | |
|--------------------------|------------------------------|
| 1. Technical proficiency | 9. Tact |
| 2. Leadership qualities | 10. Oral communications |
| 3. Production | 11. Written communications |
| 4. Initiative | 12. Working with others |
| 5. Judgment | 13. Supervision |
| 6. Decisions | 14. Using instruction |
| 7. Organization | 15. Dependability |
| 8. Adaptability | 16. Overall performance |
| | 17. Progress during the year |

TABLE IV
CLUSTERS OF PERFORMANCE REVIEW TRAITS EXTRACTED



A separate correlation matrix was constructed for each cluster type. These correlations are shown in Tables V and VI. (Since cluster types III, IV and V contained only two performance review types each, no correlation matrix was essential.) The correlations in each column were summed and, according to the theory of linkage analysis, the largest total indicates the performance review trait for that particular type grouping.

Table V indicates that over-all performance--with the highest column total of 3.90--is the trait most representative of Type I. Table VI shows that leadership qualities is the trait most representative of Type II. Using instructions and dependability mark Type III. Tact and working with others are representative of Type IV; and organization and supervision, Type V.

The use of the rating scale which is most representative of each cluster would provide the statistical measure for the performance review now provided by 17 rating scales.

Finally, Table VII shows the correlation of traits with typical representatives of each trait. The coefficients in Table VII can be viewed as factor loadings or the correlation of each individual trait with each type of trait. The underlined coefficients in each column point out the traits that were more correlated with that type of trait than with any other type.

Correlation and linkage analysis of the data provided by the performance review has, thus, provided a view of the inter-correlation of the 17 trait rating scales of the performance review. The results of this analysis have shown that the five typical representative trait rating scales tend to measure that all the 17 scales are measuring.

TABLE V
INTERCORRELATIONS OF TYPE I TRAITS

	Technical Proficiency	Production	Judgment	Decisions	Adaptability	Written Communications	Overall Performance	Progress During the Year
Technical Proficiency		.60	.39	.38	.44	.43	.53	.38
Production	.60		.59	.53	.48	.61	.56	.61
Judgment	.39	.59		.53	.26	.35	.54	.55
Decisions	.38	.53	.53		.49	.35	.56	.37
Adaptability	.44	.48	.26	.49		.31	.57	.36
Written Communication	.43	.61	.35	.35	.31		.48	.53
Overall Performance	.53	.39	.56	.56	.57	.48		.66
Progress During Year	.38	.61	.55	.37	.36	.53	.66	
	<u>3.15</u>	<u>3.81</u>	<u>3.23</u>	<u>3.21</u>	<u>2.91</u>	<u>3.06</u>	<u>3.90</u>	<u>3.46</u>

TABLE VI
 INTERCORRELATIONS OF TYPE II TRAITS

	Leadership Qualities	Initiative	Oral Communications
Leadership Qualities		.66	.59
Initiative	.66		.40
Oral Communications	.59	.40	
	<u>1.25</u>	<u>1.06</u>	<u>.99</u>

TABLE VII

CORRELATION OF TRAITS WITH TYPAL REPRESENTATIVES OF EACH TRAIT

Trait	Type I	Type II	Type III	Type IV	Type V
1. Technical Proficiency	<u>.60</u>	.41	.17	.25	.44
2. Leadership Qualities	<u>.46</u>	1.00	.42	.32	.46
3. Production	.39	.46	.40	.48	.54
4. Initiative	.41	<u>.66</u>	.19	.20	.46
5. Judgment	<u>.59</u>	.48	.35	.56	.45
6. Decisions	<u>.53</u>	.51	.49	.39	.49
7. Organization	<u>.54</u>	.46	.41	.34	<u>1.00</u>
8. Adaptability	<u>.48</u>	.30	.33	.14	.44
9. Tact	<u>.48</u>	.32	.31	1.00	.34
10. Oral Communications	.52	<u>.59</u>	.22	.50	.37
11. Written Communications	.61	.46	.55	.47	.57
12. Working With Others	.39	.36	.47	<u>.63</u>	.47
13. Supervision	.51	.52	.34	<u>.31</u>	<u>.63</u>
14. Using Instruction	.40	<u>.42</u>	1.00	.31	.41
15. Dependability	.34	.33	<u>.64</u>	.25	.41
16. Overall Performance	1.00	.56	<u>.37</u>	.43	.56
17. Progress During the Year	<u>.61</u>	.54	.28	.56	.57

Typal Representatives:

- Type I - Overall Performance
- Type II - Leadership Qualities
- Type III - Using Instruction
- Type IV - Tact
- Type V - Organization

CHAPTER IV

INNOVATIVENESS RATINGS

To rate each of the Oklahoma county extension directors as to their relative innovativeness, twenty-one county extension directors were randomly selected to do the rating.

Each director thereby was rated as to relative innovativeness on three separate 7-point rating scales. The three scales represent "facets" of innovativeness. The three facets are described as follows;

First facet. The relative time at which the county director was perceived actively to seek new ideas about educational programs for extension. This might include such innovations as new program ideas, methods of teaching or methods of evaluating program effectiveness.

Second facet. The time, relative to other county directors, at which the county director was perceived to adopt or put into use new ideas about educational programs for Extension.

Third facet. The degree, relative to other county directors, that the county director was perceived to be sought by other extension directors as a source of new educational information about extension programs.

Thus, results of three 7-point rating scales were obtained for each county director. Total innovativeness was then calculated as the mean of the three scales.

Table IX provides the results of the innovativeness ratings for all three facets, and for the mean innovativeness ratings.

TABLE IX
 MEAN SCORES OF COUNTY EXTENSION DIRECTORS AS
 DERIVED FROM INNOVATIVENESS RATING SCALES

County Extension Director	Seeks Innovations Early	Adopts Innovations Early	Is Sought for Innovations	Average of Mean Innovativeness Ratings
1	5.19	5.10	5.14	5.14
2	6.57	6.67	6.52	6.59
4	6.14	6.05	5.95	6.05
7	5.62	5.48	5.52	5.54
10	5.14	5.14	5.05	5.11
11	5.10	5.05	5.24	5.13
12	5.10	5.10	5.14	5.11
13	5.33	5.19	5.14	5.22
15	5.48	5.33	5.29	5.37
18	5.52	5.43	5.33	5.43
19	5.57	5.48	5.43	5.49
21	5.43	5.43	5.38	5.41
24	5.90	5.71	5.67	5.76
25	5.24	5.10	5.10	5.15
26	6.38	6.24	6.24	6.52
27	5.71	5.62	5.48	5.60
30	5.14	5.10	4.90	5.05
31	5.19	5.19	5.00	5.13
32	4.76	4.90	4.76	4.81
35	5.10	5.05	5.05	5.07
36	6.14	6.19	5.95	6.09
37	5.05	5.05	5.05	5.05
38	5.71	5.71	5.52	5.65
39	5.19	5.10	5.10	5.13
40	4.95	5.00	4.86	4.94

TABLE IX (Continued)

County Extension Director	Seeks Innovations Early	Adopts Innovations Early	Is Sought For Innovations	Average of Mean Innovativeness Ratings
41	5.57	5.52	5.52	5.54
42	4.43	4.14	4.05	4.21
45	6.24	6.19	6.43	6.29
46	5.14	5.10	5.10	5.11
47	5.81	5.67	5.62	5.70
48	5.90	5.67	5.52	5.70
50	4.90	4.86	4.81	4.86
51	5.33	5.38	5.10	5.27
52	5.05	4.95	4.71	4.90
53	5.29	5.19	5.38	5.29
54	5.00	4.81	4.90	4.90
56	4.95	4.95	4.67	4.86
57	5.19	5.19	5.19	5.19
58	4.81	4.90	4.90	4.87
59	5.48	5.38	5.43	5.45
60	6.14	6.19	6.05	6.13
61	5.76	5.62	5.62	5.67
62	5.62	5.57	5.67	5.62
64	5.52	5.43	5.52	5.49
66	5.19	5.14	5.19	5.17
68	5.76	5.57	5.62	5.65
72	6.33	6.29	6.48	6.37
73	4.90	4.81	4.86	4.86
74	6.10	6.00	6.00	6.03
76	5.67	5.71	5.71	5.70
77	5.76	5.62	5.62	5.67

The data provided by the performance review ratings and innovativeness ratings enable testing of the author's two hypotheses.

This chapter, then, is concerned with determining what relationships exist between the several independent variables under study. In so doing, we will be considering the problems stated in the two hypotheses.

Hypothesis I states that those county extension directors who fall in the top third on mean perceived innovativeness would have lower ratings on performance reviews than those county directors classified as to middle or low innovators.

In other words, the author hypothesizes that those top third county directors are being less rewarded with the performance appraisal because of their program innovativeness than the less innovative peer county extension directors.

To test this hypothesis, performance appraisal scores of the top third county directors in innovativeness were compared with the performance review ratings of the middle and bottom third of county directors as to innovativeness. Directors were ranked according to the results of the over-all innovativeness rating scale, from most to least innovative. They then were arranged into one of three groups of 17 each (to total the 51 county directors in the study.) The groups were "High Innovators," "Middle Innovators," and "Low Innovators."

Results of the ratings according to these groupings are shown in Table X.

Over-all performance review ratings were assigned to the respective county director in whatever innovativeness group he fell. Variance analysis of performance by innovativeness groups determined any significant differences.

TABLE X

COUNTY EXTENSION DIRECTORS ARRANGED IN RANK ORDER ACCORDING
TO OVER-ALL INNOVATIVENESS SCORES AND SHOWN WITH
RESPECTIVE OVER-ALL PERFORMANCE REVIEW RATING

County Extension Director	Mean Performance Review Rating	
2	6.12	
26	6.12	
72	6.18	
45	6.24	
60	6.29	
High Innovators	36	6.12
	4	5.82
	74	6.06
	24	5.88
	47	6.12
	48	5.71
	76	5.82
	61	6.24
	77	6.12
	38	5.12
	68 - Total	100.79
	62 - Mean	5.93
Middle Innovators	27	5.94
	7	5.71
	41	5.94
	19	5.47
	64	5.59
	59	5.00
	18	5.65
	21	5.41
	15	5.88
	53	5.71
	51	6.00
	13	5.35
	57	5.76
	66	6.18
	25	5.76
1 - Total	96.47	
11 - Mean	5.67	

TABLE X (Continued)

County Extension Director		Mean Performance Review Rating
	31	5.94
	39	5.47
	10	5.94
	12	5.59
	46	5.71
Low Innovators	35	5.65
	37	6.35
	30	5.82
	40	5.65
	52	5.76
	54	5.76
	58	5.53
	56	4.94
	50	5.41
	73	5.06
	32 - Total 94.64	6.00
	42 - Mean 5.57	4.06

TABLE XI

ANALYSIS OF VARIANCE F-RATIO TABLE: TESTING DIFFERENCES
BETWEEN HIGH, MIDDLE AND LOW INNOVATORS BEING
SOUGHT FOR INFORMATION BY PEERS

Source of Variance	df	ss	ms	F	p
Between High, Middle, Low Innovators	2	1.18	.59	3.68	.05
Within Variance	48	7.77	.16		
	50	8.95			

Results of this analysis of variance in Table XI indicate that there is a difference in the performance review ratings according to the degree of innovativeness, and that this difference is significant beyond the .05 level. Such a significance could occur by chance fewer than 5 times out of 100.

Briefly, as shown in Table XI, the mean performance review rating of the High Innovative group was 5.93; the mean performance review rating of the middle third group was 5.67; and the mean performance review rating of the bottom third group was 5.57.

A "gap" test for three or more variables was used to determine any significant difference between the means of performance review ratings of high, middle and low innovators. The gap test indicated the differences in ratings between high and middle innovators was not significant at the .05 level. This meant that a difference this large could have occurred by chance.

The difference in performance review ratings between high innovators and low innovators was significant at the .05 level. Those high innovative directors received significantly higher performance review ratings.

than the low innovators--beyond chance occurrence.

Middle innovators had a higher mean performance review score than low innovators, but the difference was not significant at the .05 level; a difference this large could have been a chance occurrence.

Hypothesis I was not confirmed. The more highly innovative county extension directors tended to receive higher performance review ratings than their less innovative peers.

Hypothesis II states that Oklahoma county extension directors who are among those perceived to be in the top third of the active seekers and early adopters of educational ideas and practices are those less sought after for ideas and practices by peer county directors than the less active seekers and later adopters.

This is to say that county directors who seek actively new ideas and practices for educational programs and who adopt early these ideas and practices into usage, will not be those most sought after by their peer county directors for new ideas and practices.

For analysis, county directors were rank-ordered according to the combined ratings from the innovativeness rating scale of "Seeks Information Early" and "Adopts Innovations Early." Then the directors, just as in the case of Hypothesis I, were arranged into three groups of 17 each. The groups were, "High Innovators," "Middle Innovators," and "Low Innovators".

The rating score from the "Sought for Ideas" facet of the innovativeness scale was then assigned to each county director, respectively.

Table XII presents this information in tabular form.

The author was attempting to determine if any difference existed between the three innovator groups as to their "being sought for ideas

TABLE XII

COUNTY EXTENSION DIRECTORS ARRANGED IN RANK ORDER ACCORDING TO "ACTIVELY SEEKS" AND "ADOPTS EARLY" FACETS OF THE INNOVATIVENESS SCALE. THE RIGHT COLUMN OF FIGURES IS THE RESPECTIVE RATING FROM THE "SOUGHT FOR NEW IDEAS" FACET OF THE INNOVATIVENESS RATING SCALE

County Extension Director	"Sought for Ideas" Rating
2	6.52
26	6.52
72	6.48
45	6.43
36	5.95
60	6.05
4	5.95
74	6.00
24	5.67
48	5.52
47	5.62
38	5.52
76	5.71
77	5.62
61	5.62
68	Total 100.28 - 5.62
27	Mean 5.90 - 5.48
62	5.67
41	5.52
7	5.52
19	5.43
64	5.52
18	5.33
59	5.43
21	5.38
15	5.29
51	5.10
13	5.14
53	5.38
57	5.19
31	5.00
66	5.19

TABLE XII (Continued)

County Extension Director		"Sought for Ideas" Rating	
	25	Total - 90.33	5.10
	1	Mean - 5.31	5.14
	39		5.10
	10		5.05
	46		5.10
	30		4.90
	12		5.14
Low Innovators	35		5.05
	11		5.24
	37		5.05
	40		4.86
	52		4.71
	56		4.67
	54		4.90
	50		4.81
	73		4.86
	58		4.90
	32	Total 83.15	4.76
	42	Mean 4.89	4.90

and practices about educational programs."

To determine what difference might exist, analysis of variance was again used as the statistical test for significance. The paradigm was given in Figure 2, page 23.

Table VIII indicates there is a significant difference between the degree to which county directors are sought for information and ideas by their peers. The differences between the degree to which different levels of innovators are sought for new information and ideas would occur by chance less than 1 time in 100 such experiments.

TABLE XIII

ANALYSIS OF VARIANCE F-RATIO TABLE: TESTING DIFFERENCE
BETWEEN HIGH, MIDDLE AND LOW INNOVATORS BEING
SOUGHT FOR INFORMATION BY PEERS

Source of Variance	df	ss	ms	F	p
Between High, Middle, Low Innovators	2	202.80	101.40	1268	.01
Within Variance	48	3.98	.08		
	50	206.78			

Thus, the data indicate that county directors who are regarded highly in early seeking of information and early adoption of information and ideas are significantly more sought after for new ideas and information by their peer directors. Those county directors in the middle third grouping are more sought after by their peers than are those in the bottom third group.

The mean "sought-for-information" for each of the three groupings

of county directors was 5.90 for the high group; 5.31 for the middle group; and 4.80 for the low group.

A "gap" test indicated there was a significant difference ($p < .05$) between the groupings of high, middle and low innovators as to their being sought for ideas by their peers. In other words, high innovators are sought after innovative ideas to a greater degree than middle innovators; and middle innovators are sought after for innovative ideas to a greater degree than low innovators. Such a difference could have occurred by chance fewer than 5 times in 100 trials.

Hypothesis II also was not confirmed. County directors who were perceived to actively seek new educational information and who were perceived to adopt this information at a relatively early time, were those who are perceived to be most sought after for educational information by their peer county extension directors.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study was concerned with the relationship between innovativeness of Oklahoma county extension directors, their performance appraisal, and their being a perceived source of information about educational programs for extension by their peer county extension directors.

Innovativeness in the study was limited to innovativeness in extension educational ideas and concepts. These ideas and concepts included such things as new programs for presentation; new audiences for those programs; new methods of program delivery, such as short courses, tours, demonstrations, radio, television, newspapers and newsletters; as well as new and clearer concepts of evaluating the effectiveness of educational programs with audiences.

Total innovativeness was defined as the mean score of three separate facets of the over-all innovativeness rating scales. These three facets were meant to measure, (1) relative degree to which the county director is perceived actively to search for new ideas and concepts; (2) relative time in which the county director is perceived to adopt new ideas and concepts; and, (3) relative degree to which the county director is perceived to be sought by peer county directors for new ideas and concepts.

The 7-point innovative rating scales were completed by 21 randomly-selected county extension directors.

Over-all performance review rating was defined as the mean of the scores given each county extension director on the extension performance review's 17-trait scale. Each of the 17 traits was measured by means of a 7-point scale. Those traits included: technical proficiency, leadership qualities, production, initiative, judgement, decisions, organization, adaptability, tact, oral communications, written communications, working with others, supervision, using instruction, dependability, over-all performance and progress during the year. The performance appraisal, or review, is performed annually with the county directors by their administrative superior, the district director. Each district director rates those county directors in his own district.

There were 51 county directors in this study out of the 77 county OSU Extension Centers. There were six extension districts.

In this study, there were two objectives. The first was to determine the relationship between the over-all educational innovativeness of county directors, as perceived by their peer county directors, and the over-all performance review rating given to those county directors.

The second objective was to determine the relationship between a county director's active search for educational ideas and early adoption of those ideas, with perception by his peers as being actively sought for new educational ideas and information

Testing the Individual Hypotheses

Hypothesis I. This hypothesis stated that those county extension directors who fall in the top third on mean perceived innovativeness would have lower ratings on performance reviews than those county directors classified as to middle or third innovativeness.

Variance analysis showed in Chapter V that county directors who ranked in the upper third as to perceived innovativeness by their peer county directors received the highest performance review ratings.

The test also showed that county directors in the middle third ranking as to perceived innovativeness received higher performance review ratings than those in the bottom third.

Results relevant to Hypotheses I were not in the expected direction; indeed, they were in the opposite direction.

Thus, Hypothesis I was not confirmed.

Hypothesis II. This hypothesis stated that Oklahoma county extension directors who are among those perceived to be in the first third in ranking of the active seekers and early adopters of new educational ideas and practices are those less sought after for ideas and practices about educational innovations by peer county extension directors than the less active seekers and later adopters.

Variance analysis in Chapter V showed that county directors who ranked in the upper third as to early seeking and early adoption of innovative educational ideas were those most sought after for ideas on educational innovations by their peer county directors.

The middle third of the county directors in this ranking were also more sought after, as perceived by peer county directors.

Hypothesis II was also not confirmed.

Other Findings

Analysis of mean performance ratings of the 51 county directors on all 17 traits showed five typical representatives of traits being measured by the performance reviews. These five trait types were: Type I, over-

all performance; Type II, leadership qualities; Type III, using instructions; Type IV, tact; and Type V, organization. This meant the five typical trait representatives could be used to measure all 17 traits in the performance review instrument.

Conclusions

County extension directors of Oklahoma whom peer county extension directors perceived as relatively more innovative than others also were rated higher on extension personnel performance reviews.

Results also tended to indicate that the more innovative county directors were perceived by peer directors as more sought out for educational innovations.

In Chapter II, the writer expressed, as a rationale for the study, that social systems that reward innovativeness tend themselves to be more innovative.

Therefore, according to the literature reviewed, particularly that written by Lionberger and Rogers, Oklahoma State University Extension may be viewed as exhibiting some of the measures of innovativeness as a social system. This would seem to be a valid assumption within the limitations of this study.

Two conclusions may support this assumption. First, the more innovative county directors are seen as being rewarded by members of the administrative group, through the performance review. Secondly, county directors themselves rate as most sought-after sources of information about educational innovations, those more innovative county directors.

Over-all, this study was an attempt to provide a means of determining the organizational innovativeness of the university extension enter-

prise. As such it sought to measure the relative degree of reward provided by the administration for personnel innovativeness, and to measure the response by a segment of the organization to those persons whom they considered relatively more innovative.

Recommendations

A continuing number of new educational programs are being inaugurated in response to nationally or state identified needs. These programs are those that do not originate in the counties, but are "top-down" nature; coming from administration.

One implication, derived from this study, is that, since those more highly innovative individuals within the organization are perceived as sources of innovative information by their peers, those innovative persons could well serve as purposive legitimizers and innovators in the new programs coming from the "top down."

This is to say that a more productive procedure in getting overall staff adoption of the new programs would be to, first, identify persons who are considered innovators and sources of information by others, and then work with those people. This type of management would inaugurate more profitably a process of information diffusion throughout the organization.

According to Lionberger, when the opinion leaders, or those sought for information are "in the fold," and interpersonal communication patterns begin to carry the load, the educator's job may be largely done except to reinforce the adoption decisions already made.

Therefore, it would be a recommendation to continue to identify the more innovative staff members; to help them adopt the new programs, pro-

cedures or plans; and then to provide rewards for early adoption. The rewards provided may be in the form of salary adjustment, promotion, public notice, or personal assistance to insure success. When the administration of Oklahoma State University Extension rewards innovativeness, the entire organization, in the opinion of the author, will respond by seeking information about innovations from the innovators, and by adopting new programs, procedures and plans.

Administration, in this case, is taken to mean the state administrative staff and the members of the district staff.

Another recommendation is made as a result of this study. This is in regard to the method of performance review. As has been seen, the performance review is made on the basis of traits by means of a seventeen-question instrument, utilizing a seven-point rating scale for each trait.

It has been shown, through correlation and linkage (factor) analysis, that five rating scales could provide the information now coming from the seventeen scales. The reasons for this are several. The rating scales do not ask specific questions; the ratings on the scales are made according to the interpretation of the district director. Therefore, there is the chance for a great deal of variation in measurement. Then too, the rating scales are not measuring a tangible quantity or quality, as defined by an operational definition.

Another possible problem for measurement error with such a rating scale is that the district director may be responding to a halo effect, and all responses on the scales may reflect this.

Therefore, a recommendation would be to change the performance review rating scales to one which would actually measure progress toward

the implementation and presentation of planned extension educational programs. The recommended performance review rating instrument would emphasize the actual planning and the various ways of teaching, along with audience change as a result of the planned educational programs.

When such a performance review is measuring what is actually being done by the county director, it would seem that specific innovativeness would be more accurately recorded, and rewards for those specific steps of innovativeness would be made more possible.

Although it was not within the scope of this study to investigate and devise a more effective means of performance appraisal, the data provided by the results of the present appraisal instrument made possible a study of that system. And since, in the opinion of the author, the performance review provides a measure and a means of rewards for employee innovativeness, the subject has been considered briefly herein.

Other Areas of Research

This study was concerned with innovativeness as it applies to one segment of extension personnel, the county director. And it was concerned with innovativeness only as it was applied to new educational programs and ideas for extension to use.

Other areas of research might include studies to determine the relative perceived innovativeness of persons as to different fields within the extension enterprise. Are those perceived innovative in one field, such as home economics, also innovative in another field, such as youth work? Such a study would provide even further information for inauguration and diffusion of information throughout the organization.

Other innovativeness studies might include the determination of

Oklahoma State University Extension as to its perceived innovativeness as an educational institution by various types of lay audiences. This type of research would provide a picture of the organization for administrative decisions in new programs and teaching methods.

Finally, research might include further studies in the measurement of performance. As has been indicated, the performance appraisal area is, in the opinion of the author, constantly in need of study and improvement to reflect actual employee accomplishment. Better performance assessment would provide a basis for rewarding accomplishment, and it would provide a means for rewarding innovativeness.

BIBLIOGRAPHY

- Barnett, Randall and Logan Louderback, "When Organizations Change." Journal of Extension, Vol. IX (Summer, 1971), 9-15.
- Beal, G. M. and J. M. Bohlen, The Diffusion Process. (Iowa Agricultural Extension Service, Iowa State University, 1957).
- Bender, Ralph E., Robert W. McCormick, Ralph J. Woodin, Clarence J. Cunningham and Williard H. Wolf. Adult Education in Agriculture. Columbus: Charles E. Merrill Co., 1972.
- Bruce, Melvin L. "The Rural Neighborhood Concept." Rural Sociology, Vol. 19 (December, 1954), 371-76.
- Bruce, R. L. and G. L. Carter. "Administrative Climate." Journal of Cooperative Extension. Vol. 5 (Spring, 1967), 8-15.
- Bruce, R. L. and A. E. Durfee. "Performance Appraisal." (unpub. study, Cornell University, 1969).
- Durfee, Arthur E. "Helping Others Improve Performance." Journal of Extension. Vol. VIII (Summer, 1970), 18-25.
- Evans, J. C. "Program Planning." (Unpub. study, Oklahoma State University, 1966).
- Kelsey, Lincoln David and Cannon Chiles Hearne, Cooperative Extension Work. Ithica: Comstock Publishing Assoc., 1963.
- Kerlinger, Fred N. Foundations of Behavioral Research. New York: Holt, Rinehart, and Winston, Inc., 1964.
- Lionberger, Herbert F. Adoption of New Ideas and Practices. Ames: Iowa State University Press, 1960.
- Litwin, George H. and Robert A. Stringer. Motivation and Organizational Climate. Boston: Harvard University, Division of Research, Harvard Business School, 1968.
- McQuitty, L. "Elementary Linkage Analysis for Isolating Orthogonal and Oblique Types and Typal Relevancies." Educational and Psychological Measurement, XVII, 1957.
- Oklahoma State University Extension, University Extension Job Descriptions, (unpub. administrative policy, 1972).

- Paul, L. C. "Is the Innovator Dead," Journal of Extension. Vol. VII (Spring, 1970), 6-10.
- Rogers, Everett M. Diffusion of Innovations, New York: Free Press of Glencoe, 1962.
- Sabrosky, Laurel K. "Evaluation," The Cooperative Extension Service, ed. H. C. Sanders. Englewood Cliffs, New Jersey: Prentice-Hall, 1966.
- Schramm, Wilbur, Classroom Out-of-Doors: Education Through School Camping. Kalamazoo, Michigan: Sequoia Press, 1969.
- Sheats, Paul H., Clarence D. Jayne and Ralph B. Spence. Adult Education. New York: Dryden Press, 1953.
- Strother, George B. "Creativity in the Organization," Journal of Cooperative Extension. Vol. VII (Spring, 1969), 7-16.
- Wilkening, E. A. "Informal Leaders and Innovators in Farm Practices," Rural Sociology. Vol. 17 (September, 1952), 272-75.
- York, E. T., Jr. "Coordinating Extension," Journal of Cooperative Extension. Vol. IV (Summer, 1966), 69-74.

APPENDIX

OKALHOMA STATE UNIVERSITY EXTENSION
PERFORMANCE REVIEW RATING SCALE

Form I

OKLAHOMA STATE UNIVERSITY EXTENSION
PERFORMANCE APPRAISAL

The appraisal must reflect performance and abilities the staff member has demonstrated in his present position since the time of his last appraisal.

1. Technical Proficiency - The knowledge needed to perform the functions of the job and the ability to apply the knowledge in the performance of the job.

1	2	3	4	5	6	7
Weak		Average			Outstanding	

2. Leadership Qualities - Employee inspires and leads others responsible to him and/or working with him.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

3. Production - The amount of work accomplished as compared to his performance standards and job description.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

4. Initiative - The energy, desire and ability to tackle new problems, to work out solutions and to investigate new ideas.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

5. Judgment - The ability to compare, consider results of alternative proposals, evaluate the facts, have understanding and good sense.

1	2	3	4	5	6	7
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6. Decisions - The ability to decide on a proper course of action and to proceed with confidence toward meeting the objective.

1	2	3	4	5	6	7
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7. Organization - Employee's ability to arrange or systematize his work and that of any subordinates for production and efficiency.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

8. Adaptability - Ability to adapt to the physical and mental requirements of the job. The adjustment required in fitting into new situations and those involving change.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

9. Tact - Ability to express opinions, ideas and criticisms without offense to others.

1 2 3 4 5 6 7

10. Oral Communications - Ability to talk clearly and concisely, according to the requirements of the position, resulting in mutual understanding.

1 2 3 4 5 6 7

11. Written Communications - Ability to write clearly and concisely, according to the requirements of the position, resulting in mutual understanding.

1 2 3 4 5 6 7

12. Working with Others - Ability to work congenially and effectively with others.

1 2 3 4 5 6 7

13. Supervision - Employee's ability to effectively direct and motivate subordinates to reach work goals. Includes work layout, scheduling, training, follow-up and checking of completed work.

1 2 3 4 5 6 7

14. Using Instructions - Ability to work in accordance with existing regulations, interpreting and applying promptly new instructions and procedures.

1 2 3 4 5 6 7

15. Dependability - Reliability, trustworthiness and responsibility to the Service in completion of assigned duties.

1 2 3 4 5 6 7

16. Overall Performance - Degree to which his over-all performance meets the requirements of the Service for his job.

1 2 3 4 5 6 7

17. Progress made during the past year (general performance level compared to previous year).

1 2 3 4 5 6 7

Staff member's preference for next job assignment

First Choice _____

Second Choice _____

Recommendations

a. Ready for promotion to _____

b. Staff member is willing to be reassigned to another location in present job assignment. Yes ____ No ____.

c. Has potential for what position _____
Employee is judged to have the capacity to assume greater responsibilities over and above the job he now occupies but is not ready to assume these responsibilities.

d. Training needed to reach potential listed above.

VITA

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