THE RELATIONSHIP AMONG OKLAHOMA EXTENSION EDUCATORS' ATTITUDES TOWARD THE EXTENSION SERVICE, PROBLEM SOLVING STRATEGIES AND THEIR SELF-EFFICACY BELIEFS

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CHAPTER I

INTRODUCTION

Background

The Oklahoma Cooperative Extension Service has adopted a mission to "provide research based educational programs in agriculture, home economics, 4-H and youth, and rural development to serve the highest priority needs of the people " (OCES Publication, 1997). The service utilizes research from the University, government and other sources to provide information to help individuals make decisions and resolve problems they encounter. The field staff, now referred to as Extension Educators or county agents, are the "front line" staff that help the public resolve the problems that occur.

Previous research has included information regarding OCES field staff's personality types (Nickel, 1994), employee satisfaction in Extension (Boltes et al., 1995), the extent of knowledge regarding diversity among Extension staff (Cano & Ludwig, 1994), and the training needs of county Extension personnel (Lyles & Warmbrod, 1994). However, none of these studies examined the Extension Educators' confidence in solving problems or looked into measuring their self-efficacy.

Cooley (1994) stated that as Extension Educators operate in a world of escalating change, their role as facilitators in dealing with conflict laden issues will increase. Problem solving in a local Extension office can range from parenting issues, to county fair judging

controversies, to the possibility of a corporate hog farm operation in the community. Often agents are asked to help facilitate discussions in these areas while trying to maintain an unbiased stance. The difficulty of these challenges is compounded by the changing roles of Extension professionals. Jones and Jost (1993) stated that "in these times of declining resources and increasing demands, business as usual no longer is an option for the Cooperative Extension office" (p. 1). Patton (1987) agreed, stating that "future programs will be delivered through interdisciplinary teams working on specific problems and focused initiatives" (p. 2).

As the role of Extension changes, uncertainty may develop within the staff. Smith (1991) stated that the "new package forces us to look outward to the people before we look inward, address broader audiences, enlarge our circle of resources and drop some sacred cows" (p. 3). Boyle (1989) concurred stating that the new mission of Extension "places the primary problem solving focus on the staff and demonstrates our 'pro-active' leadership role in addressing critical needs" (p. 3).

Cooley (1994) stated that the change in mission has created the necessity of change in an agent's outlook. He stated that "if Extension is to significantly impact conflict laden issues at the local level, we must shift our educational paradigm. We can no longer afford to have teaching as Extension's dominant view. Instead we must reach out from an educational paradigm of learning" (p. 1).

Thus, developing information about the Extension agents' problem solving strategies and self-efficacy beliefs is crucial in helping the agents adjust to the transitions that are occurring in the Extension Service.

Statement of the Problem

In a time of change in the service and mission of the Oklahoma Cooperative Extension Service, the duties and obligations of the county Extension staff are also changing. More information is needed about the educators' perceptions of their problem solving strategies and their self-efficacy beliefs as they relate to their attitudes toward Extension. The ability of OCES to operate efficiently internally as well as deliver quality programming is critical to its continuing prosperity (Nickel, 1994).

The self-efficacy and problem solving strategies of Oklahoma Extension Educators and their attitudes toward Extension are currently unknown. This information can assist both the educators in their professional development and the OCES system as a whole in planning for the future.

Purpose of the Study

The purpose of the study was to determine and compare measures of attitudes toward Extension, problem solving strategies and the self-efficacy beliefs of the Oklahoma Cooperative Extension Service Extension Educators.

Objectives of the Study

In order to accomplish the intent of this study, the following objectives were outlined:

1. To describe the relationship between Extension Educators' scores on a self-efficacy measure and the Problem Solving Inventory.

2. To determine the relationship between the scores on these two instruments and the educators' score on a measure of their attitudes toward the Oklahoma Cooperative Extension Service.
3. To compare the scores on these three measures to the Extension Educators' demographic information regarding years of service, degree attained and job title.

Rationale for the Study

To date, no research has been conducted to determine the self-efficacy beliefs and the problem solving strategies of Cooperative Extension field staff. No information is available about the relationship with these scores to field staff's attitudes regarding the Extension Service. Collection of this data should increase the awareness and communication between the Extension field staff and other professionals as a result of a better understanding of the implications of differences among self-efficacy beliefs, attitudes toward the Extension Service and problem solving strategies. This information will be helpful in the development of future programming in the areas of professional and staff development.

Assumptions of the Study

The following assumptions will be made for the purposes of this study:

1. The responses of the Extension professionals were accurate and sincere.
2. The data gathering instruments used adequately measured the Extension Educators' responses concerning the study.

Definition of Terms

It was deemed important to offer definitions of the following terms:

Self-Efficacy – "Beliefs in one's capabilities to organize and execute the course of action required to produce given attainments" (Bandura, 1997, p. 3).

Problem Solving – any goal directed sequence of cognitive operations employed for the purpose of adapting to internal/external demands or challenges (Heppner, 1988).

Extension Educator – a person employed by the Cooperative Extension Service to provide leadership in planning, implementing and evaluating education programs among adults and youth of the county where assigned.

Scope of the Study

1. Implications of the study are applicable only to Oklahoma Extension Educators.
2. The nature of the measures also has limitations. Since all of the instruments involve self-report, the scores may show some bias.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The purpose of this chapter is to present and familiarize the reader with the information related to the topic of this study. The literature review was conducted in a way to identify information and data relevant to problem solving and self-efficacy as well as information about the Cooperative Extension Service. To do so, the following major areas will be reviewed. 1) history and background information regarding the Cooperative Extension Service, 2) problem solving strategies, 3) self-efficacy, and 4) a summary.

The Cooperative Extension Service

History

The Cooperative Extension Service developed as the nation developed. The 1862 and 1890 Morrill Acts provided that at least one college in each state would teach topics related to agriculture. The USDA was created in 1862. In the 1887 Hatch Act, Congress established agricultural experiment stations to conduct agricultural research at the land grant colleges in each state. The Smith-Lever Act passed in 1914 formalized and increased federal support for a cooperative arrangement among the federal government,

the land-grant colleges, and county governing boards for agricultural Extension work. The act created the Cooperative Extension Service and set forth its mission:

> To aid in diffusing among the people of the United States useful and practical information on subjects related to agriculture and home economics and to encourage the application of the same (Comptroller General, 1981, p. 2).

The act encouraged the Service to reach persons who were not attending the land grant colleges.

Today the Extension Service continues to be organized at the federal, state and county levels. Programs offer diverse topics to families, agricultural producers and youth. Federal funding is much less significant than it was in the early days, and Extension personnel are now employed at the state level rather than the federal level.

> Today, Cooperative Extension is characterized by a multiplicity of programs, program objectives and educational methods, and by a diversity of clientele groups and issues (Gamon et al, 1992, p. 24).

Each state is responsible for the organization of the Cooperative Service, with the land grant colleges still playing a dominant role in the process. Federal cutbacks have directly impacted the Cooperative Extension Service, and many states have recently reorganized their structure.

The Oklahoma Cooperative Extension Service is primarily housed in the land grant institution, Oklahoma State University. Langston University also has some Extension functions, but OSU is the more comprehensive program. The mission of the Oklahoma Cooperative Extension Service is

> to provide research-based educational programs in agriculture, home economics, 4-H/youth and rural development to serve the highest priority needs of the people (OCES Publication, 1997, p. 1).

The Changing Mission of Cooperative Extension

In light of changes in governmental funding, changing clientele demographics and dwindling resources, the Cooperative Extension Service is at a crossroads. These changes have been urged for many years. The Comptroller General (1981) urged the Cooperative Extension Service to review and clarify its mission in light of the atmosphere of budget tightening. Johnsrud (1989) stated that "the challenge is to better define our relevance, mission, priorities and capabilities" (p. 1). Fitzsimmons (1989) concurred, stating that the Service must "formulate a system of planning which encourages the organization to anticipate emerging issues and to develop responsive programs" (p. 1). White and Burnham (1995) suggested that the Service must change to reflect the changes that have occurred in society. They stated that society is moving from an educational dissemination model to an consumer driven model. They believed that this shift represents a move from teacher-centered to learner-centered and from organizational/governmental/institutional needs to a focus on community centered needs. This change will result in the learner and the community taking greater responsibility for accessing information and the role of educator becoming more that of a facilitator.

Others stressed the need for the Extension Service to embrace the technological changes in society. Ezell (1989) discussed the trends that are driving both the innovation and the use of information technology. She believed that the future of Extension is reliant on the sum of communications, computers and media which are converging in the field. Rewerts and Timm (1996) stated that the population has exploded; people have migrated from rural to urban areas, and access to communication technology is now commonplace.

Jones and Jost (1993) felt this is crucial stating that these "rapid changes in technology require Extension to invest in and take advantage of modern information and communication tools and resources" (p. 1).

Issues clarification has become a buzz word in the Extension Service. Taylor-Powell and Richardson (1990) suggested that issues programming is the approach for moving the Service into the 21st Century. Krueger (1989) agreed stating that issue development is key. Boyle (1989) explained the process to begin with the identification of issues and then proceeding to tailor the organizational resources, delivery methods and structure to meet the needs related to the issue. He believed that the problem solving focus is placed on community teams rather than individuals and demonstrated how Extension could become more pro-active in addressing critical needs.

Another approach to the Extension crisis is to require field staff to develop more specialization. Hutchins (1990) believed that specialization will allow the Extension Service to stay relevant in today's information rich society. Rewarts and Timm (1996) saw the role of Extension agent as becoming more of a change agent in the community. They saw the field staff "helping people to identify critical local issues – issues that often focus attention on the interdependence that exists among rural and urban communities" (p. 2).

Many stress the need for Extension agents to form coalitions in the community. White and Burnham (1995) stressed that the "locus of control for community access to information and education is based on shared leadership, resources and capabilities within the community" (p. 9). They emphasized that Extension must develop new partners, new clients and a new way of doing business with more expansion and less concern with turf.

Some see the importance of the role of problem solver for the Extension agent. Cooley (1994) explained that there is a need for a negotiator to help with those who have different interests at stake and are struggling to apply information and knowledge to the conflict. Conflict is inevitable when communities are faced with limited resources. Development of issues based programming will bring out conflict within the community as different decision makers struggle with the issues they feel are important.

Most see that mission change is necessary for the survival of the Cooperative Extension Service. Harriman and Daugherty (1992) stressed that " those in Extension who try to preserve the past miss the big picture" (p. 1). They emphasized that the success of Extension will depend on staff who are willing to be innovative and take risks. They urged that "unwillingness to continue evaluating structure and staffing roles could lead to paradigm paralysis" (p. 1). That paralysis might lead to the extinction of the Extension Service over time.

Relevant Research on Extension Service Employees

No research was discovered relevant to Extension field staff's scores on problem solving inventories or self-efficacy measures. Boltes and others (1995) measured the perceptions of Texas Extension personnel's perceptions of seven dimensions including clientele satisfaction, strategic planning, focus on the future, faculty involvement, achieving balance between work and personal life, professional development and diversity. The researchers found that the balance between professional and personal life, a clear vision of the future, attention to training and development and employee involvement were problems for the Extension staff. They expressed the most dissatisfaction in the areas of

achieving balance, strategic planning, professional development and employee involvement. The researchers concluded that the Extension Service must become more organizationally relevant to its employees.

Cason, Thames and Poling (1998) studied the factors associated with burnout among family and consumer sciences paraprofessionals. They found that the older the Extension worker, the lower the burnout level. They also documented a decreased sense of locus of control within the organization. The researchers attributed this to the organizational changes that occurred prior to the study. They concluded that moderate to high levels of burnout existed among the majority of the paraprofessionals studied.

Lyles and Warmbrod (1994) evaluated the training needs of county Extension coordinators. They concluded that there was a need for better understanding of the roles of job responsibilities within the Extension Service. They felt that inservice education was needed to help clarify the expectations and behaviors of those in leadership roles. Cano and Ludwig (1994) looked at the perceptions and knowledge of Extension administrators regarding diversity. They found that the Extension Service has not yet reached its goal of becoming a multicultural organization. They cited the lack of an overall plan addressing diversity as the problem. They also found that there is confusion as to how to communicate with and serve clientele from other backgrounds.

Earnest and McCaslin (1994) looked at Extension administrators' approach to conflict management. They found that district directors used an integrating conflict management style in conflict situations. Those studied showed a preference to stick to one conflict management mode rather than switching to an obliging style that fits the situation. Taylor-Powell and Richardson (1990) looked at the influence of issue

development and found that eighty-one percent of the county agents reported working with new audiences since the initiation of issues programming.

Mietlicki (1996) addressed the issue of downsizing in Extension in her work with Extension Home Economists. She found that resilient behaviors, coping strategies, social support and life events played a major role in the adjustment of the professionals involved in downsizing efforts. She found that most organizations in the country concentrated their downsizing efforts on systematic changes and work redesign strategies rather than through work force reductions. This seemed to affect the respondents positively. Prominent coping strategies included maintaining contact with their colleagues and having a strong belief system.

Nickel (1994) used the Oklahoma Cooperative Extension field staff as the population for her study with the Myers-Briggs Type Indicator. She found that the OCES staff was well represented across the MBTI personality types but that they seem to prefer the temperament combinations within the sensing/judging areas. Field staff preferred the introversion attitude as well as the judging versus perception dichotomy. Gender differences were noticed in another dichotomy, with men scoring higher in the thinking mode and women scoring higher in the feeling mode. She gave implications for her research which included that "individuals in supervisory positions in OCES could provide opportunities and respond more appropriately to individual preferences as a means to favor productivity and avoid needless frictions and disagreements" (p. 79). This research illustrates the need for more information about the characteristics of OCES field staff. Information about problem solving strategies and self-efficacy beliefs will also aid in the future plans of the Extension program as a whole.

Summary

Many feel that in this critical time in the future of the Extension Service more information about the staff's preferences is necessary. A study looking into these issues will aid in the future professional development plans of the Extension Service. Stone (1997) stated that such information is helpful to a number of human resource systems including preemployment preparation, career development, performance appraisal and succession planning. Walla (1992) stated it more strongly, "Cooperative Extension is in the process of renewing its social contract with the people, and our very survival depends on how well we understand it" (p. 1).

Problem Solving

Introduction

Problem solving ability is vital to those in Extension work. Many conflicts arise in a variety of settings. Field Staffs are often faced with problem solving issues dealing with parents, community leaders and clients. Problem solving is defined as "the complex interplay of cognitive, affective, and behavioral processes for the purpose of adapting to internal and external demands or challenges" (Heppner & Baker, 1997, p. 230). An ability to solve problems is an integral part of employment with the Extension office. Durlock (1983) stated that effective problem solvers are flexible, adaptable and are able to develop suitable methods to solve problems and reach suitable goals.

Heppner (1988) separated the concept of problem solving into three constructs. The first, problem solving confidence is defined as self-assurance while engaged in

problem-solving activities. He stated that this factor is best conceptualized as a general measure of problem solving efficacy. Research suggests that this factor is positively associated with personal agency, curiosity, positive affectivity and negatively associated with anxiety, anger, and depression (Heppner, 1997). The second, approach/avoidance style, is a general tendency to approach or avoid problem-solving situations. One's ability to approach problems will greatly affect subsequent problem solving behaviors, such as defining a problem and working with others on solutions. The last, personal control, involves being in control of one's emotions and behaviors while solving problems. This factor is tied to emotional overreactivity and behavioral control.

Relevant Research on Problem Solving

Heppner, et al. (1982) used the Problem Solving Inventory and structured interviews to look at the differences between students who have perceived themselves as "successful" and those who saw themselves as "unsuccessful" problem solvers. Their results showed that the self-perceived "successful" problem solvers differed by being more insightful and that their answers were more thoughtful. They also reported fewer personal problems. The researchers also found that the nature of the problem also affected the problem solving process. Intrapersonal problems brought on more approach behaviors and more confidence among the subjects.

A variety of measures were used to evaluate problem solving strategies with students in the study of Heppner, Reeder and Larson (1983). They found that subjects who perceived themselves as effective problem solvers had a greater tendency to enjoy cognitive activities, higher self concepts and lower self-criticism scores, lower frequencies

of dysfunctional thoughts, and fewer irrational beliefs. In addition, their coping styles were less blameful and more problem focused than those subjects who perceived themselves as ineffective problem solvers. Carscaddon, Poston and Sachs (1988) found similar characteristics in their work with problem solving appraisal as it related to state trait personality factors. They concluded that there are significant relationships between problem solving appraisal and the state trait factors of anxiety, anger and curiosity. The higher level of problem solving self doubt was related significantly to state-trait anxiety, low trait curiosity and trait anger.

Heppner, et al. (1983) explored whether one's problem-focused coping efforts were facilitated or inhibited progress toward resolution of a problem. Their research yielded three coping constructs. The Reflective Style emphasized cognitive activities such as planning and reflection and showed an approach to problems. Conversely, the Reactive Style emphasized emotional and cognitive activities, which depleted the individual or distorted problem solving ability. The Suppressive Style showed an avoidance and denial of problem solving activities and was related to disengagement activities.

Problem solving has also been studied as it relates to career decision. Larson and Heppner (1985) found that subjects who perceived themselves as positive problem solvers were more confident about their decision-making ability and occupational ability, were more likely to have related their abilities to an occupational field, were less likely to view the source of indecision outside of themselves and less likely to acknowledge antecedents of career indecision.

Summary

It is important to look at the construct of problem solving in relationship to other factors. Heppner and Baker (1997) stressed that for most people, life is full of daily hassles and stressful events. They may be viewed by the sufferer as minor or major events. Not all people who encounter these events experience negative physical and psychological outcomes. An important concept in understanding the effect of these stressors is the interactive relationship between a person's resources and the environmental demands (Lazarus and Folkmann, 1984). The literature indicates that numerous researchers have found the construct of problem solving to be identifiable and measurable. This research suggests that applications involving problem solving strategies involving Extension agents would be helpful.

Self-Efficacy

Introduction

The term efficacy is used to describe the power to produce an effect. Bandura (1997) developed the term self-efficacy to label a person's predicted success in executing the behavior needed to produce a specific outcome. He further developed the term, defining it as "belief in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). These beliefs have very diverse effects. They influence the course of action that people choose, how much effort they put forth in an endeavor, how long they attempt that endeavor, their resistance to adversity, how much stress they experience in coping with stressors, and the level of

accomplishment they realize. In sum, if people believe they have no power to produce results, they will not attempt to make things happen (Bandura, 1997).

Reportedly, self-efficacy has been developed through four forms of influence. Bandura (1995) stated that the most effective way to create a strong sense of efficacy is through mastery experiences. This involves creating the cognitive, behavioral and self-regulatory tools for creating and maintaining effective courses of action to manage life circumstances. Vicarious experiences are another form of influence. Observing people who are similar to oneself and seeing them succeed gives the observer the belief that they too might possess these abilities. Social persuasion is the third form of strengthening self-efficacy. People can be persuaded verbally that they possess the capabilities to master an activity. Finally, people also rely on their own physiological and emotional states in judging their abilities. By enhancing one's physical or psychological reactions, self-efficacy can be strengthened. Of course, all four of these processes can influence self-efficacy in negative ways as well. Repeated failing attempts at an activity, observing another failing at an activity, negative social persuasion and poor physical and psychological stamina can have a negative impact on self-efficacy.

Self-efficacy is seen as task and situation specific and as useful in making judgments in reference to some type of goal (Pajares, 1996). Fuller, et al. (1982) saw a distinction between organizational efficacy and performance efficacy. They saw organizational efficacy as the person's perception of gaining valued outcomes by influencing another person at a different level of the organization. Performance efficacy indicates the belief in one's own work tasks. Pajares (1996) recommended that

researchers need to explore the extent to which they relate to and transfer across different tasks and domains.

Research Involving Self-Efficacy

Self-efficacy has been measured in a variety of settings. Lucas, Wanberg and Zytowski (1997) used the Kuder Task Self-Efficacy Scale (KTSES) with other measures to see if occupational self-efficacy was related to career task self-efficacy. They found that people who have high career decision making self-efficacy have higher career task self-efficacy. They also observed gender differences, citing that men in the study were more efficacious about mechanical and physical work and that women were more efficacious about work dealing with people and social interactions.

More gender differences were observed by Hackett and Betz (1981). They stated that as a result of socialization experiences, women lack strong expectations of personal efficacy in relationship to many career related behaviors and, as a result, fail to fully realize their capabilities and talents in career pursuits. Hackett and Campbell (1987) concurred finding women in a success condition were significantly more likely than men to attribute their performance to luck; women in the failure condition were more likely to attribute their failure to their lack of ability.

Criticism has been found to have an effect on self-efficacy. Baron (1988) found that undergraduates who received destructive criticism of their work set lower goals and reported lower self-efficacy than subjects who received constructive criticism or no feedback. Goal setting is also tied to the construct. Zimmerman, Bandura and Marinez-Pons (1992) found that students' beliefs in their efficacy for self-regulated learning

affected their perceived self-efficacy for academic achievements, which in turn influenced the academic goals they set for themselves and their final academic achievement. Locke, et al. (1984) found similar results, stating that self-efficacy was most strongly related to past performance versus future performance but remained a significant predictor of future performance. Lent, Brown and Larkin (1984) found that students who reported high self-efficacy for educational requirements generally achieved higher grades and persisted longer in technical/scientific majors than those with low self-efficacy.

Several studies have looked at the implications of training on self-efficacy in the workplace. Bryan, Beaudin and Greene (1993) found that a trainer can increase the self-efficacy of workers so that they can acquire the desired skills but that these skills will not be effectively transferred and maintained if the workers have a low self-efficacy belief about using the behavior on the job. They also found that without positive reinforcement the behavior will quickly extinguish, and the new result of training may be minimal. The method of training may also be important. Gist (1989) found that modeling training participants significantly outscored those in a lecture condition on the self-efficacy measures.

Self-Efficacy Among Educators

Many factors seem to play a role in self-efficacy among educators. Coladarci (1992) found that general efficacy and personal efficacy emerged as the two strongest predictors of teaching commitment. Those with stronger teaching commitments and high self-efficacy score tended to have fewer students per teacher and worked for a principal who was regarded positively. Benz, et al. (1992) found that self-efficacy scores were

higher for more experienced teachers. They also found that motivation and socialization played a role in self efficacy issues. Surprisingly, they did not find any significance in issues such as discipline, parents and evaluation. Hillman (1984) found that high achieving schools were much more likely to have students, teachers and principals with a strong sense of self-efficacy.

Other related factors include the findings of Harrison, et al. (1997) that computer confidence among university staff was a contributor to self-efficacy. They found that increased performance with computer tasks was significantly related to higher levels of self-efficacy. Woolfolk and Hoy (1990) found a relationship between teacher efficacy and classroom management beliefs. They found that teachers with high self-efficacy were more humanistic in their pupil control ideology. However, the relationship existed only among teachers who believed that they had the ability to make a difference in student achievement.

Gender differences are also found in self-efficacy issues for educators. Vasil (1992) found among university faculty that males reported significantly stronger research self-efficacy beliefs, a greater amount of time spent on research activities and greater productivity than the females. Schoen and Winocur (1988) found that female academics were less confident about performing research tasks than teaching tasks. They were also less confident in engaging in research than in administration tasks. Although male academics were also more confident in performing teaching tasks, they were equally confident in their performance of research and administration tasks. Landino and Owen (1988) also found lower scores among female academics. They stated that feeling

nourished and rewarded by a department and being male contributed to the highest self-efficacy scores.

Relationship Between Problem Solving and Self-Efficacy

The link between problem solving strategies and self-efficacy beliefs is a logical one. Kruger (1997) stated that there was a statistically significant relationship between self-efficacy and problem solving strategies. He found that reassurance of worth exhibited a substantial relationship to self-efficacy in problem solving. Wolf (1997) also found a positive relationship between self-efficacy and group problem solving. She found that educational level, expertise in the work area, problem solving confidence, orientation to group problem solving and the amount of previous participation in such groups was linked to self-efficacy among workers. Pajares (1996) encouraged research linking self-efficacy to other constructs, stating that domain specific constructs were more explanatory and predictive than omnibus measures. He stressed that research involving self-efficacy should be consistent and tailored to the different domains of functioning.

Conclusion

The research indicates that the constructs of problem solving, self-efficacy and attitudes toward the Extension Service are valid for this study. The literature also indicates that these three issues are compatible and address concepts that are important to Extension Educators and the Extension Service on the whole. The interaction among these variables and demographic data regarding Extension Educators appears also to be worthy of consideration when conducting research.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to evaluate the relationship among problem solving strategies, self-efficacy beliefs and the attitudes regarding the Extension Service of the Oklahoma Cooperative Service Extension Educators. Therefore, the purpose of this chapter is to describe the procedure and methodology that will be used in the study to accomplish the following objectives:

1. To describe the relationship between Extension Educators' scores on a self-efficacy measure and the Problem Solving Inventory.
2. To determine the relationship between the scores on these two instruments and the educators' score on a measure of their attitudes toward the Oklahoma Cooperative Extension Service.
3. To compare the scores on these three measures to the Extension Educators' demographic information regarding years of service, years of experience in OCES, degree attained and job emphasis.

Institutional Review Board

Federal regulations and Oklahoma State University policy require review and approval of all research studies that involve human subjects before researchers may begin their work. The Oklahoma State University Institutional Review Board conducts these reviews to protect the rights and welfare of human subjects involved in behavioral research. In compliance with the aforementioned policy, this study received the proper surveillance and was granted permission to continue, IRB#: ED-99-074 (see Appendix F).

Population of the Study

The population of interest consisted of the 190 Extension Educators (also known as field staff) in the state of Oklahoma. These educators hold a variety of titles including Extension Educator-Agriculture, Extension Educator- Family and Consumer Sciences, and Extension Educator-4-H and Youth Development. Some staffs operate in a single county; others hold positions that include more than one county, often called a unit. These educators are employed by Oklahoma State University and were identified from the 1998 Personnel Directory of the Division of Agricultural Sciences and Natural Resources. To assure accuracy and completeness, updates and changes that had occurred since the directory was printed were obtained from the OCES Director's Newsletters.

Instrumentation

Cover Letter

The first page of the instrument packet was the cover letter (see Appendix A). It provided a brief explanation of the study and informed the subjects of the nature of the instruments. The letter contained a signature from the Interim Associate Director of the OSU Cooperative Extension Service to encourage participation. Necessary Review Board statements were included in the cover letter.

Demographic Questionnaire

The second page of the packet was the background page, designed to collect demographic information (see Appendix B). This information included questions regarding age, gender, educational level, years of experience and job emphasis. This page was developed for the study by the researcher.

The Attitudes Toward the Extension Service Scale (AES)

This instrument was developed by the researcher using polar opposites that are discussed in the current literature regarding the scope and mission of the Cooperative Extension Service (see Appendix C). Consultations were made with the Interim Associate Director of Extension and Assistant Director of Family and Consumer Sciences and 4-H Youth Development and they provided input to the researcher regarding the items. Care was taken to pair the polar opposites with non-judgmental terminology.

Osgood, Suci and Tannenbaum (1965) addressed the issues of reliability and validity of semantic differential scales similar to this one. They stated that it is a highly generalizable technique which must be adapted to the requirement of each research problem to which it is applied. The AES Scale was developed based on a pilot study in which twenty word pairs were included. A group of district Extension staff served as respondents to determine its effectiveness. The initial items included on the AES for the pilot study were analyzed with a principal components analysis using a Varimax rotation. The factor structure of the original 20 individual variables (word pairs) was examined and items with loadings below .42 were eliminated which reduced the items to 14.

The Problem Solving Inventory

The Problem Solving Inventory (PSI) is a 35 item Likert-scale instrument designed to "assess an individual's perceptions of his/her own problem solving behaviors and attitudes" (Heppner, 1988). The Inventory can be found in Appendix D. The PSI range is 32 to 192; high scores indicate self-perceived ineffective problem solving appraisal. A low score indicates a successful perception of problem solving ability. A total score is achieved by adding the scores of three sub-scales for a total PSI score.

In addition, three scales are derived from these items: Problem Solving Confidence (PSI-CON), Approach-Avoidance Style (PSI-AA) and Personal Control (PSI-PC). Heppner (1988) defined the three subscores. Problem Solving Confidence is defined as self-assurance while engaging in problem solving activities. Low scores on this scale indicate that the respondents believe and trust in their problem solving abilities.

Approach- Avoidance is defined as a general tendency to approach or avoid problem situations. The last factor, Personal Control, indicates the extent that respondents believe they are in control of their emotions and behavior while solving problems.

The Problem Solving Inventory has been widely used in a variety of settings. The individual scales were derived through factor analysis, and factor structure has been confirmed in a variety of samples. Heppner (1988) reports the individual scales and total score have internal consistency coefficients ranging from .72 to .91. Concurrent and discriminant validity is supported in previous research. PSI scores have been found to correlate positively with psychological health, marital adjustment, parenting behavior, utilization of resources, and differential attributional processes. The PSI has also been found to correlate negatively with career indecision. Larson et al (1990) found two consistent significant predictors of PSI scores: positive coping strategies and global problem solving self-efficacy. The Problem Solving Inventory was purchased by the researcher from Consulting Psychologist Press, Inc., in Palo Alto, California.

Extension Educator's Self-Efficacy Instrument (EESE)

The Extension Educator Self-Efficacy Instrument was developed by the researcher based on the General Perceived Self-Efficacy Scale (Schwarzer & Born, 1998) and the School Administrator Self-Efficacy Scale (ASES) (Roberts, 1997). The instrument can be found in Appendix E. The General Perceived Self-Efficacy Scale contains 10 general questions regarding self-efficacy. The scale has been widely used in numerous countries. The English version has been utilized in numerous research projects and yields internal consistencies between alpha .75 and .91. Schwarzer and Born (1998) report that it has

been proven valid in terms of convergent and discriminant validity. It has been found to correlate positively with self-esteem and optimism and negatively with anxiety, depression and physical symptoms. The ASES included all ten items from the GSES.

The School Administrator Self-Efficacy Scale (ASES) contained 17 expertise and 16 facilitation questions. The expertise questions identified the level at which the principal believed he/she possessed the knowledge to be effective. The facilitation questions identified the level at which the principal believed that he/she was capable of helping or supporting the staff. The ASES was subjected to factor analysis to check reliability and validity. Reliability coefficients as determined by Cronbach's Alpha indicated strong internal consistency. The composite score has a reliability of .92.

The Extension Educator Self-Efficacy Scale used the concepts from the ASES with minor changes in the wording to better describe the Extension Educator role. The ASES was selected and modified because it covers similar roles and responsibilities for Extension Educators. Extension Educators deal with similar problems: controversies with parents, administrative functions, public relations, etc. Those questions that were not applicable to Extension work were deleted; thus the final instrument had 12 questions, all from the expertise area of the ASES which brought the total number of questions on the Extension Educator Self-Efficacy Scale to 22.

Procedures

The instrument packet was mailed through university pouch mail to the Extension Educators at their workplace addresses. A self-addressed, stamped envelope was provided to return the survey. Participants were given approximately two and one half

weeks to return the surveys to the researcher. A follow-up postcard was sent to those who had not responded one week after the survey was mailed. Surveys were coded to allow the researcher to determine the educators who had not completed the survey. Approximately 75% of the surveys were returned by respondents. Surveys which were incomplete or returned after the predetermined cutoff date were eliminated leaving 135 usable surveys for analysis from the 190 total surveys mailed. The seven surveys that were incomplete or late in arrival were analyzed to ensure that dramatic differences did not exist between the group that was used and the group that was unuseable. The unused surveys did not display substantial differences from those included in this research. Therefore, it did not appear likely that their responses would have substantially altered the outcomes of the study.

Data Analysis

Data were collected through the three test instruments – the Attitudes Toward the Extension Service Scale, the Problem Solving Inventory and the Extension Educator Self-Efficacy Scale. Data analyses were conducted by the researcher using the statistical software SPSS for Windows Vol 7.5. Pearson product moment correlation coefficients were conducted between the AES, PSI , EESE and the demographic data to identify the relationships among the items. Multi-variate analysis of variance procedures were also used with the Attitudes Scale. Dependent variables were the PSI sub-scales, the AES Scale and the EESES subscales. Independent variables included years of experience, gender, educational level and job title. Multivariate analysis was also used to determine specific areas of significance. Power analyses were conducted to ascertain the minimum

numbers of subjects needed for an adequate test of the results. Differences among groups using dimensional data were analyzed via analysis of variance (ANOVA). Regression analyses were conducted to determine the best predictors of problem solving ability and self-efficacy.

CHAPTER IV

PRESENTATION OF FINDINGS

Introduction

The purpose of this study was to determine the relationship among problem solving strategies, self-efficacy beliefs and the attitudes regarding the Extension Service of the Oklahoma Cooperative Service Extension Educators. Differences were appraised by comparing demographics characteristics and frequencies of occurrence in the three instruments in the study.

This chapter presents analysis of data collected from 135 respondents from the population of 190 OCES field staff; the respondents included fifty-five males (n=55) and eighty females (n=80). Ten questionnaires were excluded from the study due to incomplete answers or late return dates, giving a response rate of 76%. In order to address the questions raised in the objectives of the study, several methods were used. A description of the general demographic characteristics of the Extension Educators will introduce the data and address the objective regarding the characteristics of the respondents. Information regarding correlations found within the data address the issues presented with all three of the objectives. MANOVA information was complied to determine the relationship among the instrument scores and the demographic information. ANOVA data was used to further develop these relationships using all three of the

instruments. Regression data was compiled which also addressed the three objectives presented earlier in this work.

Description of the Subjects

One hundred and thirty-five field staff employees of the Oklahoma Cooperative Extension Service comprised the respondents of this study. The demographic characteristics of the group are summarized in Table I. The sample included 55 males and 80 females for a total group of 135. The respondents were given five choices regarding their job emphasis: 52 selected family and consumer sciences (38.5%), 26 4-H youth development (19.3%), 46 agriculture/horticulture (34.1%), six special projects (4.4%), and five EFNEP/ONE programs (3.7%). The respondents were also asked to indicate the year of their birth, the highest level of education completed and how many years of service they had achieved with the Oklahoma Cooperative Extension Service. The average age of the educators was 42.59. They reported a mean of 12.97 years of experience in OCES. The majority held master's degrees (68.9%) with 30.4% holding bachelor's degrees.

The OCES personnel office was contacted, and they provided demographic information regarding county field staff as of April 1, 1999. Respondent data were compared to this population data. The respondents' demographic backgrounds were virtually identical with the exception of degree achieved. The respondents reported that 30.4% had bachelor's degrees, 68.9% had master's degrees, and one did not indicate a degree completed. The OCES data revealed that 43% had bachelor's degrees, 57% had master's degrees, and one Ph.D. was reported. Thus, respondents with bachelor's degrees were slightly under represented in the study.

TABLE I

SELECTED DEMOGRAPHIC CHARACTERISTICS OF OKLAHOMA COOPERATIVE EXTENSION FIELD STAFF

Emphasis in Job	Frequency	Percent
Family & Consumer Sciences	52	38.5
4-H Youth Development	26	19.3
Agriculture/Horticulture	46	34.1
Special Projects	6	4.4
EFNEP/ONE Program	5	3.7
Degree		
Bachelors	41	30.4
Master's	93	68.9
Not Indicated	1	0.7
Gender		
Male	55	40.7
Female	80	59.3
Age		
20-30 years	15	11.1
31-40 years	37	27.4
41-50 years	54	40
51-60 years	27	20
61-70 years	2	1.5
Years of Experience		
0-5 Years	32	23.7
6-10 Years	30	22.2
11-15 Years	27	20.0
Above 15 Years	46	34.1

Table II shows the distribution of the respondents by gender and job emphasis. It shows that the respondents were highly segregated by gender regarding job titles with the exception of those involved with 4-H and youth development. All who indicated family and consumer sciences, special projects, EFNEP and other projects were female. Males comprised 95.7% of the group indicating agriculture and horticulture. These statistics reveal that the respondents show a great deal of homogeneity especially in the area of job title and gender.

TABLE II

DISTRIBUTION OF THE RESPONDENTS BY GENDER AND JOB EMPHASIS

Job Title		Male	Female	Total
Family and Consumer Sciences	Count		52	52
	% within Job Title		100.0%	100.0%
4-H Youth Development	Count	11	15	26
	% within Job Title	42.3%	57.7%	100.0%
Special Projects	Count		6	6
	% within Job Title		100.0%	100.0%
Agriculture/Horticulture	Count	44	2	46
	% within Job Title	95.7%	4.3%	100.0%
EFNEP and Other Projects	Count		5	5
	% within Job Title		100.0%	100.0%
Total	Count	55	80	135
	% within Job Title	40.7%	59.3%	100.0%

Description of the Instruments

Attitudes Toward the Extension Service Scale

The Attitudes Toward the Extension Service Scale was the first instrument in the packet. The frequency distributions for the survey are presented in Table III. Factor analysis was conducted on the questions in the AES Scale to determine the effectiveness of the measure. The means and standard deviations for the Attitudes Toward Extension Service Scale items were determined using an "eigenvalue one" criterion, a "scree test" criterion and by examining the variance for which each factor accounted for a two-factor solution was derived. Each question had a possible score of 1 to 7. Thus, a score of 4 on the constructs would indicate that the respondents were neutral about the question. A number less that 4 would favor the first descriptor and a number more than 4 would favor the second descriptor.

The respondents were asked to provide information about their attitudes toward the Extension Service as it is now, not how they wished it to be. Examination of the item analysis produced interesting information about the attitudes of the Extension Educators. The respondents still see the Extension Service serving the primary role of education (m= 3.00) instead of the role of facilitation. They slightly favored the generalization framework (m= 3.59) instead of specialization. They favored a new Extension model of initiating change (m= 4.70) as opposed to preserving the past. They preferred a need to minimize risk (m=3.14) rather than taking risk. They viewed the Extension Service as complex (m= 4.77) not simple and saw the Service as challenging (m= 4.17) not cautious. The Extension Service was still viewed as operating from a low tech modality (m= 3.83)

TABLE III

FREQUENCY DISTRIBUTIONS OF THE ITEMS REFLECTING ATTITUDES TOWARD THE OKLAHOMA COOPERATIVE EXTENSION SERVICE

Attitudes Toward the Extension Service Scale (1-7 range)	Mean	Standard Deviation
education/facilitation	3.00	1.34
generalization/specialization	3.59	1.37
preserve past/initiating change	4.70	1.48
minimizing risk/taking risk	3.14	1.38
simple/complex	4.77	1.52
cautious/challenging	4.17	1.68
low tech/high tech	3.83	1.48
grassroots initiative/top-down initiative	4.16	1.80
brainstorming/structured analysis	3.87	1.30
neutrality/advocacy	3.37	1.50
rural/urban	3.04	1.07
rigid/flexible	4.59	1.63
controlled/autonomous	3.89	1.43
isolation/collaboration	4.65	1.43

as opposed to a high tech modality. The respondents viewed initiatives as coming from the top/down (m= 4.16) rather than from a grass roots level. They reported that brainstorming was the favored method (m= 3.87) rather than structured analysis. They perceived the Extension Office as still remaining in a role of neutrality (m= 3.37) instead

of an advocacy role. They saw the Extension Service as remaining in its traditional rural setting (m= 3.04) instead of an urban setting. They did perceive the Service as highly flexible (m= 4.59) versus inflexible, but saw the atmosphere as controlled (m= 3.89) instead of autonomous. Finally, they preferred collaboration (m= 4.65) instead of isolation as an important component of OCES. Thus, the respondents favored several of the variables that are used in the literature to describe the "old" ways in which the Extension Service has been reported to operate including: education, minimizing risk, low tech, top-down initiatives, neutrality, rural and controlled. They reported seeing the Extension Service as showing characteristics of the new ways in the constructs of specialization, initiating change, complex, challenging, brainstorming, flexible and collaboration.

Factors analysis produced two factors based on their correlations. These factors are illustrated in Table IV. The first factor, entitled *Initiatives* by the researcher, accounted for 16.197% of the variance. *Initiatives* was comprised of four variables: Challenging/Cautious, Brainstorming/Structured Analysis, Rigid/Flexible and Controlled/Autonomous. The term *Initiatives* was coined due to the similarity of the variables in describing the initiatives of the Extension Service as the respondents saw the Service. The mean for this construct was 16.52. The respondents indicated that they found the construct of challenging slightly more characteristic than cautious with a mean of 4.17. They indicated that the Service tended toward brainstorming over structured analysis with a mean of 3.87. They indicated that the Extension Service showed a tendency toward flexibility with a mean of 4.59. In the final construct, they felt that the Extension Service was controlled over autonomous with a mean of 3.89.

The second factor, called *Mission*, accounted for 14.139% of the variance. *Mission* was comprised of five variables: Education/Facilitation, Preserve Past/Initiating Change, High Tech/Low Tech, Grassroots Initiatives/Top-Down Initiatives, and Isolation/Collaboration. The total mean for *Mission* was 20.36. This grouping led the researcher to coin the factor *Mission* since the variables described the changing mission of the Extension Service as seen in the literature. The respondents favored education as a mission with a mean of 3.00. They selected initiating change with a mean of 4.70. They saw the Extension Service as leaning toward low tech regarding technology with a mean of 3.87. They saw the Service as disseminating information through top-down initiatives with a mean of 4.16. They viewed the Extension Service as using collaboration with a mean of 4.65. These factors indicate that the respondents saw the Extension Service's mission as changing to the new framework in most of the categories with the exception of grassroots initiatives versus top-down initiatives and education versus facilitation. Combined the two factors of *Initatives* and *Mission* accounted for 33% of the variance in the AES Scale. This illustrates that the respondents view the initiatives involving OCES as challenging, using brainstorming instead of structured analysis, flexible and controlled. They viewed the mission of OCES as comprised of education rather than facilitation, initiating change, using top/down initiatives and involving collaboration.

TABLE IV

SUMMARY OF THE ATTITUDES TOWARD EXTENSION SCALE CONSTRUCTS

Extension Attitudes Groupings	Mean	Standard Deviation
Initiatives	16.52	3.31
Mission	20.36	3.44

Note: Initiatives consisted of: Cautious/Challenging, Brainstorming/ Structured Analysis, Rigid/Flexible, Controlled/Autonomous. Mission consisted of: Education/Facilitation, Preserve Past/Initiating Change, High Tech/Low Tech, Grassroots Initiatives/Top-Down Initiatives, Isolation/Collaboration.

Problem Solving Inventory

Means for the Problem Solving Measures are provided in Table V. The Problem Solving Inventory mean for the sample was 76.12. This compares to the mean developed with the instrument by Larson et al. (1990) of 86.53. Larson's means were developed from a compilation of numerous studies involving the PSI and other measures. Thus, extension educators displayed a more successful problem solving perception than the norm. Extension Educators' mean score on the Approach/Avoidance subscore was 38.77. Other research has found a mean of 44.24 (Larson et al., 1990). The Extension Educators had a mean score of 23.13 on the Confidence subscale as compared to a mean of 24.92 with Larson's sample. Finally, the extension educators produced a mean of 14.21 on the Personal Control subscore as compared to Larson's samples mean of 17.34. Thus, on all the scales, the Extension Educators reported more successful perceptions of

their problem solving abilities than the subjects studied by Larson. Heppner (1988) reported means of normal adults as PSI Total-81.55, CON-23.35, AA-42.20 and PC-16.0. Although his sample was smaller than this study, it is apparent from both Heppner's and Larson's work, that extension educators as a group perceived their problem solving strategies as more successful than the other samples cited.

Self-Efficacy Measures

Means for the Self-Efficacy subscores are found in Table V. Factor analysis was conducted on the items in the Self-Efficacy measure. The procedure determined a one factor solution using principal component analysis. The Kaiser-Meyer-Olking Measure of Sampling Adequacy determined a .902 score for the measure. The scores indicated that the instrument was strong and the constructs were stable. Again, as with the PSI scores, a low score on the Self-Efficacy instrument demonstrates that the respondents show a high self-efficacy tendency. The General Self-Efficacy Measure had a mean of 20.40. This compares to Schwarzer's (1998) mean of Americans on the instrument of 28.63 (SD=6.18 N=7,767). Thus, the extension educators appear to have better average self-efficacy perceptions as compared to those studied by the creator of the General Self-Efficacy Measure. Comparison means with the Expertise portion are not available since the instrument was modified from the original instrument. However, the Expertise mean of 17.84 indicates that the respondents were more comfortable with their self-efficacy beliefs regarding expertise than they were with their general self-efficacy feelings.

TABLE V

SUMMARY OF THE MEANS AND STANDARD DEVIATIONS OF THE PROBLEM SOLVING INVENTORY AND THE SELF-EFFICACY MEASURES

Problem Solving Inventory	Mean	Standard Deviation
Approach/Avoidance	38.77	10.11
Confidence	23.13	7.98
Personal Control	14.21	5.23
PSI Total Score	76.12	17.54
Self-Efficacy Totals		
General SE	20.40	5.41
Expertise	17.84	4.88

Correlations for the Variables

Zero-order correlations are shown in Table VI. Pearson correlations were found at the .01 significance level with several variables. Years of experience was related significantly and positively to age and degree attained. Thus, the more experience the extension educator had, the more likely they were to be older and have a master's degree. Gender was significantly and negatively related to the General Self-Efficacy score, the Expertise Self-Efficacy score, and the Extension Attitudes-Mission questions. The Problem Solving Inventory was significantly and positively related to the PSI Confidence subscore, the PSI Approach-Avoidance subscore and the PSI Personal Control subscore. The General Self-Efficacy scale was related positively to all three subscores of the PSI as

TABLE VI

INTERCORRELATIONS AMONG VARIABLES

	1	2	3	4	5	6	7	8	9	10	11
1. Age	-										
2. Gender	.104	-									
3. Degree	.168	-.027	-								
4. Years of Experience	.641**	.033	.236**	-							
5. PSI-CON	.092	-.104	-.102	-.058	-						
6. PSI-AA	-.088	-.202*	-.171*	-.040	.369**	-					
7. PSI-PC	-.003	-.001	-.205*	.025	.193*	.367**	-				
8. PSI-Total	-.010	-.164	-.206*	-.042	.725**	.854**	.598**	-			
9. SE-General	.089	-.336**	-.156	-.046	.433**	.377**	.289**	.500**	-		
10. SE-Expertise	.095	-.312**	-.156	-.043	.359**	.398**	.310**	.485**	.796**	-	
11. Attitudes-Initiatives	.017	-.074	-.061	.148	-.065	-.005	-.059	-.050	.035	-.091	-
12. Attitudes-Mission	.013	-.228**	-.113	-.045	-.024	-.012	.023	-.011	.136	.083	.381**

Note: ** = Correlation is significant at the 0.01 level (2 tailed), * = Correlation is significant at the 0.05 level (2 tailed).

well as the Total PSI score. The Expertise Self Efficacy scale was also related positively and significantly to all three subscore of the PSI and the General Self-Efficacy scale. The Attitudes Toward the Extension Service Scale subscores were positively and significantly related to each other. Correlations at the 0.05 level were found with degree attained and all of the PSI measures with the exception of the PSI Confidence subscale.

These correlations show a strong association with the PSI measure and both of the Self-Efficacy measures. They also illustrate the strength of the subscales within the Problem Solving Inventory with the sample. It prompted further investigation regarding gender and the measures which were revealed in the ANOVA and regression information in order to address the issues identified in the research objectives.

MANOVA Analysis

The multivariate analysis (MANOVA) was used to look at the multiple dependent variables simultaneously. The researcher was unable to find any significance within the group variability. This may be due to the similarities within the group. Extension Educators are a homogeneous group. Most extension educators come from similar backgrounds with similar experiences. Thus, the sample did not reveal any differences in the multivariate analysis. It was determined that it would be more appropriate to look at ANOVA and regression analysis statistics to further investigate the relationships among the variables.

ANOVA Analysis

To further develop the objectives of the study, analysis of variance was used. Three analyses of variance (ANOVA) were conducted using gender, degree attained and emphasis on job as independent variables and attitudes toward the Extension Service, problem solving and self-efficacy variables as dependent measures. As a result of the ANOVA analysis on all three instruments and their subscores in relation to the independent variables, three significant main effects were found. The Attitudes Toward the Extension Service scale was not found to have any significant relationships to the independent variables in the ANOVA analysis. The same is true for the General Self-Efficacy Scale. Relationships were found only with the Problem Solving Inventory Total score, the PSI Approach/Avoidance subscore and the Self-Efficacy Expertise subscore.

Problem Solving Inventory

A significant main effect was found between degree attained and the Problem Solving Inventory [$F(1,133) = 4.866$, $p<.029$]. Figure 1 provides an illustration of this effect. A low score on the PSI indicates that a respondent has a successful view of their problem solving abilities. Thus, the higher degree attained the more likely the educators were to display a successful attitude toward problem solving. This would indicate that the experience gained in graduate school is helpful in successful problem solving perceptions.

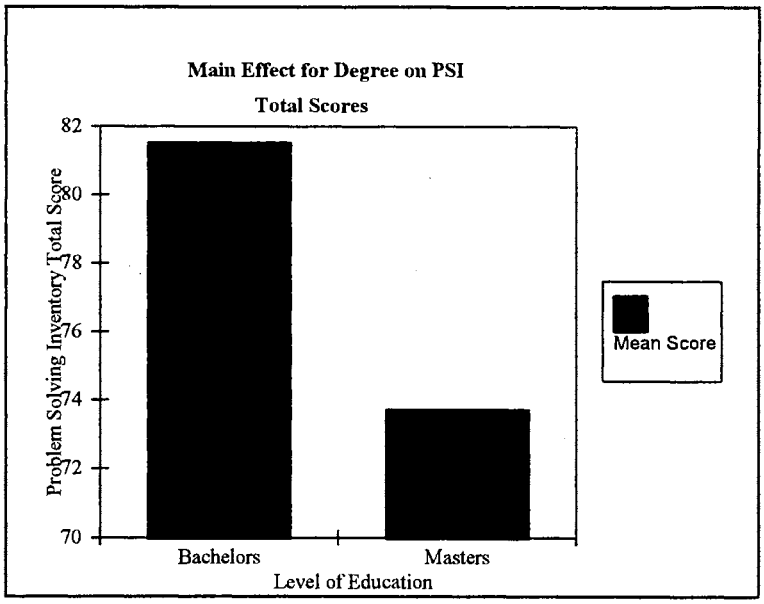

Figure 1. Main Effect for Educational Attainment on the Problem Solving Inventory.

PSI Approach-Avoidance

A second significant main effect was found for gender with the Approach-Avoidance Scale of the PSI, [F (1, 133) =4.032, p<.047]. Figure 2 provides the interactional illustration for this finding. Low scores on the PSI-AA subscale indicate that respondents perceive that they will approach problems when they are confronted with them. This figure illustrates that women among the respondents displayed a more successful perception of their ability to approach problems than the male subjects did.

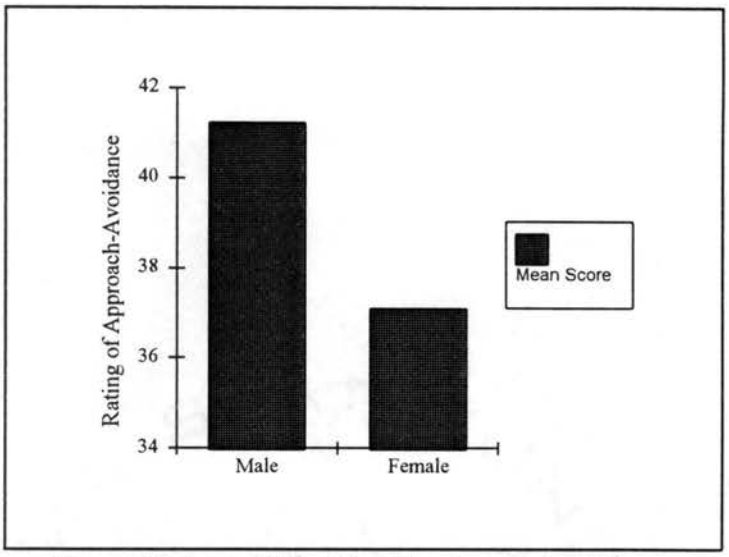

Figure 2. Main Effect for Gender on the PSI Approach-Avoidance Scale.

Self-Efficacy-Expertise

Finally, a two way interaction was also found (gender and degree) with the Self-Efficacy-Expertise subscore, [F (1, 132) =5.725, p<.018]. These interactions are shown in Figure 3. A low score on the SE-Expertise subscore indicates that respondents believed that they had positive self-efficacy perceptions regarding their work with the Extension Service. This figure shows that degree attainment had little to no effect on men in the group's Self-Efficacy-Expertise scores. Women's scores were greatly improved on the Self-Efficacy-Expertise scale if they had completed a master's degree.

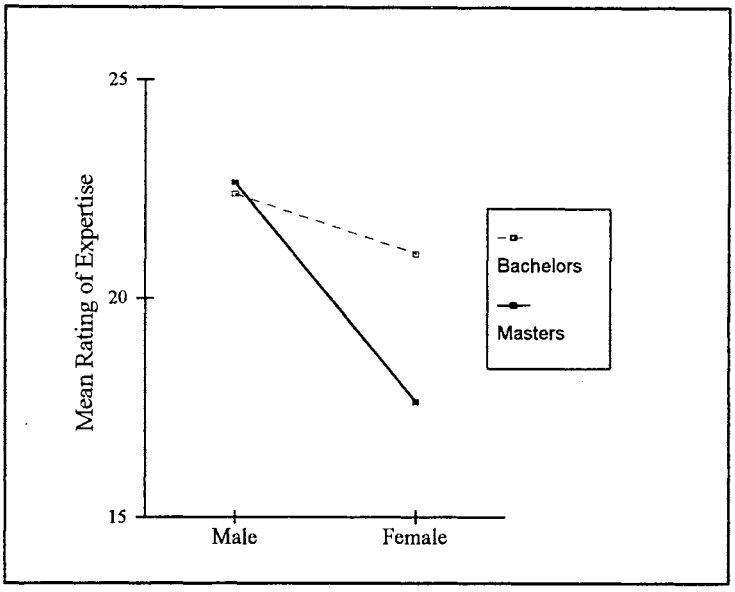

Figure 3. Main Effect of Gender and Degree Interactions on Self-Efficacy-Expertise Subscore.

Regression Analysis

Regression analyses were run on the three instruments to further explore the three objectives of the study. Those with significant results are included. Two stepwise multiple regressions were conducted using the Self-Efficacy Expertise Scale and the General Self-Efficacy Scale as criterion variables. All PSI subscores, age, gender and level of education were used as predictor variables. Because of the exploratory nature of this investigation, the probability of F occurring for a given variable to be entered into the regression equation was set at .15. Thus, those scales achieving an $\propto$ level (two-tailed) of .15 or less were retained in the equation. The relative contribution of each variable in the equation was assessed by examination of the R^2 coefficient. To examine the independent

strength of the relationship of the SE-Expertise scores to the other variables, the value of each standardized coefficient (β) was examined.

Self-Efficacy-Expertise

The results of the stepwise regression for the predication of Self-Efficacy-Expertise are illustrated in Table VII. The significant variables are listed with the PSI-Approach/Avoidance score accounting for 16% of the variance in the SE-Expertise question. Adding the variable of gender accounts for 21% of the variance. With the addition of two of the final subscores on the Problem Solving Inventory close to 30% of the variance can be explained. This illustrates the most important variable in predicting a score on the SE-Expertise subscore is the Problem Solving Inventory Approach/Avoidance subscore. The other factors of gender and the final two Problem Solving subscores are also helpful as predictors of Self-Efficacy-Expertise subscores with the group.

TABLE VII

SUMMARY OF STEPWISE MULTIPLE REGRESSION ANALYSIS IN THE PREDICTION OF SELF-EFFICACY-EXPERTISE

	Variable	R	R^2	R^2 Change	Overall F	β
1.	PSI-AA	.400	.16	.16	25.098	.400
2.	Gender	.466	.217	.057	18.207	-.245
3.	PSI-CON	.514	.264	.047	15.595	.234
4.	PSI-PC	.545	.297	.033	13.644	.195

General Self-Efficacy

The second stepwise regressional analysis involved the predication of General Self Efficacy scores. The same assumptions were used with regard to the F level and each standardized coefficient (β). The predictors were found to be PSI-Approach/Avoidance and SE-Expertise. These two variables contributed to almost 65% of the variance. These factors are explained in Table VIII. This illustrates that the Self-Efficacy-Expertise subscore is the most important predictor for General Self-Efficacy scores. The PSI Approach Avoidance subscore also adds to the prediction but the R^2 change indicates that its contribution is minimal.

TABLE VIII

SUMMARY OF COEFFICIENTS IN THE STEPWISE REGRESSION ANALYSIS IN THE PREDICTION OF GENERAL SELF-EFFICACY SCORES

	R	R^2	R^2 Change	Overall F	β
SE-Expertise	.796	.633	.633	227.715	.796
PSI AA	.803	.645	.012	118.924	.117

Problem Solving Inventory

The final step-wise regressional model was run with Problem Solving as the dependant variable. No significance was found in the analysis, so it was decided to run a

full model regression. Only one variable showed a significant β score, General Self-Efficacy (β=.334; t=2.5, p<.011). Thus, the beta weight indicates the respondents' score on the General Self-Efficacy Scale has a significant contribution in the prediction of the PSI Total score over and above all the other variables considered.

Findings

The results of this study and their relationship are described in Table IX.

Objective One – Objective One was to describe the relationship between Extension Educators' self efficacy beliefs and their problem solving strategies. The research addressed this objective in several ways. Pearson correlations were found with the PSI total score and both of the Self-Efficacy subscores in positive and significant numbers. All three of the PSI subscores also correlated positively and significantly with the Self-Efficacy Subscores.

Regression analysis also showed a relationship between problem solving and self-efficacy. The stepwise multiple regression analysis in the prediction of Self-Efficacy-Expertise showed a significant relationship with all three subscores of the Problem Solving Inventory. The second stepwise model showed a significant relationship with General Self-Efficacy scores and Problem Solving Approach/Avoidance scores. Finally the full-model regression with the PSI total score showed a significant relationship with both the Self-Efficacy-Expertise subscore and the General Self-Efficacy subscores.

Objective Two – Objective Two was to determine the relationship among the Problem Solving Inventory, the Extension Educators' Self-Efficacy Inventory and the Attitudes Toward the Extension Service Scale. Perhaps the most striking finding in the research was the absence of any group variability within the MANOVA analysis. This could be explained by the extreme homogeneity within the OCES population. Significant Pearson correlations were not found with the AES Scale and the other two measures. In fact, the only correlations found with the AES Scale were among the subscores of the measure and the variable of gender. This association with gender was not strong enough to show a relationship in any of the other methods of analysis. It is clear that the Problem Solving Inventory and the Self-Efficacy measures show a strong association, but the AES Scale does not demonstrate a relationship with the other two measures. The correlation among the two AES groupings and the factor analysis of the measures did show that its use is promising in future work.

Objective Three – Objective Three involved comparing the instruments with the demographic information. This was done on several levels. Pearson correlations were significant at .05 level with gender and the PSI Approach-Avoidance subscore. Gender also correlated at the .01 level with the Self-Efficacy General and Expertise subscores and the AES-Mission subscores. Degree attained correlated at the .05 level with PSI Approach-Avoidance, PSI Personal Control, and the total PSI score. Thus, gender has a relationship with the PSI Approach-Avoidance Scale, both Self-Efficacy Measures and the Mission portion of the Attitudes Toward the Extension Service Scale. Those with higher educational attainment demonstrated a strong association with the Problem Solving

Inventory, both at the subscore level and the overall score. These associations are further investigated in the other statistical analyses.

The analysis of variance also found several relationships among the instruments and the demographic data. A significant main effect was found between degree attained and the Problem Solving Inventory total score. A master's degree was associated with a lower PSI score. Thus, the higher the degree attained the more likely one was to perceive themselves as a successful problem solver. A main effect was also found with gender and the PSI Approach Avoidance Scale. Females were found to have lower scores on the PSI-AA subscore, illustrating the likelihood that they are more successful in approaching problems that might confront them.

A two way interaction was found with gender and degree attained and the Self-Efficacy Expertise subscore. It showed that a master's degree greatly improved the score of the females respondents, while a much smaller improvement was seen with the males who had received a master's degree.

The stepwise multiple regression analysis showed a relationship in the prediction of expertise with gender. Finally a full model regression analysis of the Problem Solving Inventory total scores showed a significant relationship with the scores on the General Self-Efficacy score.

TABLE IX

SUMMARY TABLE OF THE OBJECTIVES AND THE RESEARCH METHODS

Objectives	Correlations	MANOVA	ANOVA	Regression
1. Relationship between Self-Efficacy and Problem Solving	Yes	No	N/A	Yes
2. Relationship between SE, PSI and AES scales	No	No	N/A	No
3. Relationship between the three measures and the demographic information	Yes	No	Yes	Yes

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Introduction

In a time of change in the service and mission of the Cooperative Extension Service, the duties and obligations of the county Extension staff are also changing. More information is needed about the educators' perceptions of their problem solving strategies and their self-efficacy beliefs as they relate to their attitudes toward Extension.

Literature Review

The literature review focused on three topics related to the research involving the history of Cooperative Extension, problem solving strategies and self-efficacy. Specific research reviewed concentrated on the topics that led to the use and development of the three instruments used by this researcher. Research efforts were concentrated on the benefits of understanding attitudes toward the Extension Service, problem solving strategies and self-efficacy beliefs.

Purpose of the Study

The purpose of the study was to determine and compare measures of attitudes toward Extension, problem solving strategies and the self-efficacy beliefs of the Oklahoma Cooperative Extension Service Extension Educators.

Objectives of the Study

In order to accomplish the intent of this study, the following objectives were outlined:

1. To describe the relationship between Extension Educators' scores on a self-efficacy measure and the Problem Solving Inventory.
2. To determine the relationship between the scores on these two instruments and the educators' score on a measure of their attitudes toward the Oklahoma Cooperative Extension Service.
3. To compare the scores on these three measures to the Extension Educators' demographic information regarding years of service, years of experience in OCES, degree attained and job emphasis.

Statement of the Problem

The self-efficacy and problem solving strategies of Oklahoma Extension Educators and their attitudes toward Extension are currently unknown. This information can assist both the educators in their professional development and the OCES system as a whole in planning for the future.

Procedures

The study was a descriptive study. Three instruments were used: the Attitudes Toward the Extension Service Scale, the Problem Solving Inventory and the Extension Educator Self-Efficacy scale. A brief demographic sheet was also given to determine gender, age, educational level, years of experience with OCES and area of job emphasis. Data was collected from 135 respondents from the population of 190 OCES field staff. Data analyses were conducted using the statistical software SPSS for Windows, Vol 7.5. Several statistical calculations were made including correlations, MANOVA, ANOVA and regression.

Conclusions

The general conclusions of this study were:

1. The OCES respondents had an average age of 42.59 and had an average of 12.97 years of experience in OCES. This reveals that Extension Educators are a mature workforce. They have a long tenure with the Extension Service on average. This has a great deal of impact on the implications of the changes that are underway within the Extension Service. It also means that a large number of Extension Educators will be retiring in the coming years. Surprisingly, age and years of service were not significant factors in the study. It was not found that younger or newer employees held differing attitudes about the Extension Service from their older, more experienced counterparts.

2. The majority of the respondents held a master's degree. This factor was very important in the data. The research showed that having an advanced degree influenced the respondents' total problem solving perceptions, and their ratings on the Self-Efficacy-Expertise subscore. It is also possible, however, that those educators who had more positive perceptions of their problem solving abilities and self-efficacy beliefs are the ones who pursued and completed advanced degrees. The OCES system requires Extension Educators to obtain a master's degree, and this policy is beneficial to the staff and the service as a whole.

3. The results reveal a great deal of homogeneity in the group. This is revealed by the lack of significant data in the MANOVA results. Most Extension Educators grew up within the OCES system. They were active in 4-H as youth. Most attended Oklahoma State University. There is little racial diversity among the group. A large number of Extension Educators have been employed by the Extension Service for their entire professional career. The respondents also displayed a large amount of attitudinal homogeneity in their responses. This uniformity has significant implications for the OCES system in the future. If OCES is to embrace the diversity call to action that is mentioned frequently in the research, it may be necessary to look for ways to attract a more varied employee base.

4. This homogeneity did not, however, lead to close-mindedness on the part of the respondents. They embraced the majority of the new ways of thinking in the Attitudes Toward the Extension Service Scale. The

majority of the respondents indicated that they saw the Oklahoma Cooperative Extension Service as showing the characteristics of change referred to in the literature. Educators also show a great deal of confidence in their self efficacy beliefs especially those that related to expertise on the job. They exhibit positive problem solving perceptions.

5. Gender is a factor within the group. Females in the group reported more confidence in approaching problems. Females were also more confident regarding their self-efficacy involving their expertise skills. Their Self-Efficacy-Expertise scores were positively influenced by the completion of a master's degree while those of their male counterparts were not. It is difficult to know what influenced these scores, but the uniformity in gender and job title may help reveal some of the causes. Virtually all of the Family and Consumer Science job areas were occupied by women, and men occupy most of the agricultural jobs. It may be that a degree in the area of consumer sciences strengthens the skills that were measured by the instruments. It may be that those who work in the field of agriculture are struggling with the crises that their clients are facing due to economic problems, low agricultural prices, etc. These problems may influence their confidence in facing these problems and their beliefs about their own self-efficacy.

6. The Problem Solving Inventory and the Extension Educator's Self-Efficacy Instruments were found to correlate positively and significantly within the population of Extension Educators. These two measures were shown to be

related on several of the regressional permutations. This finding shows that the two measures were appropriate for the group studied and that they are related to one another among Extension Educators. It is clear that one's perceptions of their problem solving ability is helpful in predicting their score on self-efficacy measures and visa versa.

7. More work is needed on determining Extension Educators' attitudes toward the Extension Service. No relationship was found with the AES Scale and the other two measures. In addition, demographic information was not a predictor for the AES as well. The instrument was helpful in identifying variables connected with characteristics and mission of the Extension Service. Once again, the group displayed much agreement on the issues and seemed to have a large consensus on their vision of the current characteristics that comprise OCES. They also displayed agreement on the mission of OCES.

8. These findings indicate that there are many positive characteristics of the OCES field staff. They have higher than normal scores on both the Problem Solving Inventory and the Self-Efficacy measures. They displayed general consensus on the Attitudes Toward the Extension Service Scale. These characteristics should be stressed both to the OCES administration and to the Extension Educators themselves. As the OCES Extension Service is undergoing dramatic changes in both its mission and its structure, these assets will aid in the transitions that will be faced.

Recommendations for Future Research

Several recommendations can be made for future research concerning problem solving strategies, self-efficacy beliefs and attitudes toward the Extension Service. One recommendation is to replicate this study with other Extension professionals in different levels of the hierarchy and in different regions of the country. Perhaps comparing respondents in different states would reveal differences in the groups. Racial and ethnic differences might be revealed in states which have more diversity than Oklahoma. Analysis of the scores of those who work closely together in a unit or county office, would aid in learning if differing styles are compatible regarding problem solving and self-efficacy beliefs.

A second approach would be to look into the rural versus urban background of the respondents, as well as their county make-up and programming efforts with non-traditional populations. Either approach might increase the diversity of the responses and provide a broader perspective as to how Extension professionals survive and manage change within the organization.

A third approach would be to replicate this study with other comparable professional groups such as teachers, social service workers, volunteer coordinators, etc. Comparisons with Extension Educators and other professionals might help to gain more insight on the difference in each profession. It might also show the impact of the homogeneity of the Extension groups as compared to a workforce with more variation.

A fourth recommendation would be to design a longitudinal study, particularly with the Attitudes Toward the Extension Service Scale, perhaps six months prior to the

implementation of large changes within the Extension Service, one month after the changes, and then six month to one year after the changes. This might aid in the exploration of the constancy of these constructs.

It might be helpful to pair these instruments with another measuring Extension Educators' ability to cope with change. It is unknown if problem solving strategies and self-efficacy beliefs are important characteristics in coping with institutional change. One might look into other studies that examine a change in institutional mission and organization to see if these factors are valid measures of one's ability to cope.

The problems with self-report were identified earlier in the work. Further study of a qualitative nature might help to identify these problems and further investigate these variables. A qualitative study involving the mission and initiative factors of the AES Scale might further reveal the perceptions of Extension Educators.

Other areas of research might be to compare those who stay in the Extension Service with those who leave. The causes of the high turnover rate of new Extension professionals might be revealed. It would be interesting to note if those who have left the Extension Service have differing opinions regarding their attitudes toward OCES, their problem solving abilities or their self-efficacy beliefs.

More research is needed with the Attitudes Toward the Extension Service instrument. The Pearson correlations showed strong associations within the subscores but it should be tested with other measures to determine its value in the field. It would be interesting to know more about its relationship to other constructs such as coping skills, personality type, motivational processes, and career development issues.

A final suggestion may be to conduct a follow-up study with these Extension Educators to determine if the upcoming changes in the OCES system have impact on their responses to the instruments.

Implications

In a time of change and decreased funding, information regarding problem solving strategies, self-efficacy beliefs and attitudes toward the Extension Service is crucial to the survival of OCES. OCES field staff are the "front line" of the Extension Service, and these skills and attitudes are vital to their survival. Studies should be undertaken to determine how best to develop training programs that emphasize these skills. Inservice programs should be implemented to aid in the development of these skills. Heppner and Baker (1997) reported that providing employees with problem solving training, helps them to make more informed decisions which leads to retaining valuable employees. Self-efficacy training would be beneficial as well. Bandura (1995) stresses the assistance that mastery experiences provide to self-efficacy beliefs. OCES may want to establish ways for new employees to gain these experiences through mentoring programs. Since Extension Educators exhibited positive scores on both problem solving and self-efficacy measures, OCES might want to reinforce these strengths. Many employees may not be aware of their skills in these areas.

The OCES administration may want to examine the results of the Attitudes Toward the Extension Service Scale. While many of the "new" ways were reported by the respondents, several traditional variables were identified. Staff still identified the Extension Service as low tech, having top-down initiatives and exhibiting a controlled

versus autonomous environment. Perhaps the most striking variable was the strong preference toward a view of a rural focus in OCES. Respondents strongly view the service as operating in this focus. The literature would suggest that the changing mission of the Extension Service contradicts the rural focus. While the rural component of Extension holds a strong and long history, the addition of urban focus may cause controversy with the Extension Educators at the county level. All these variables are areas that may be barriers to the changes that are underway within the system.

The obvious homogeneity of the field staff that responded has implications for the future of Extension as well. Further investigation should be made into the cause and effect of this characteristic. It would be helpful to know whether or not this similarity will be detrimental if dramatic changes occur in the mission and scope of the Extension Service. Investigation into the causes of this uniformity would be helpful as well. One might posit that the fact that the majority of Extension Educators have a history of 4-H work as youth, common educational backgrounds and degrees and identical racial makeup would have impact on the audience that they attract.

Implications regarding gender were present as well. Since differences were observed in both the Problem Solving Inventory and the Self Efficacy measure regarding gender, it might be helpful to adapt training in these areas to different groups. Since degree attained was shown to improve both PSI and SE scores, the Extension Service is well served with the policy of requiring completion of a master's degree with all new hires.

There are implications for those outside the Extension Service. The majority of the respondents showed positive problem solving strategies and self-efficacy beliefs. What are the characteristics of these employees or their jobs that makes them more successful in

these areas? Is this true for all educators or are those in Extension unique? Many other organizations are encountering a change in mission and direction. Do they exhibit these same characteristics? Other educators are experiencing these types of changes including those in higher education. Many universities are examining their mission and looking for dramatic changes in their delivery styles which are similar to those examined in this research. It would be interesting to know if they share the same perceptions as the Extension Educators did in this research.

It is difficult to determine in this time of transition within OCES, if the coming changes have fully reached these Extension Educators. They demonstrated high perceptions of their problem solving ability, high self-efficacy beliefs and somewhat contradictory attitudes toward the Extension Service. Is this due to confidence in their ability to perform in light of the new changes? Are they still operating under their old strategies, disregarding the changes looming on the horizon? Are they oblivious to the changes that are coming, comfortable with their old abilities and modes of operation? Are they excited about the possibilities of the future of Extension, confident that their abilities and strategies will allow them to be more successful in the new world of OCES? Although it is difficult to tell, it is certain that these strategies and perceptions can be used to help make the transition to the new ways of operating more meaningful and less traumatic to these Extension Educators and to OCES as a whole.

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APPENDIXES

APPENDIX A

COVER LETTER

Dear Extension Colleague;

As an Extension Educator, I am interested in extension professionals' interests, concerns and background, as well as some of their perceptions about OCES. I am in the process of a research effort entitled The Relationship Between Oklahoma Extension Educators' Attitudes Toward Extension, Their Problem Solving Strategies and Their Self-Efficacy Beliefs. The purpose of this study is two-fold. First, the results will fulfill my requirements for a Doctorate in Education at Oklahoma State University. Second, the results will benefit Extension in a better understanding of Extension Educators.

The survey is divided into three sections. The first is designed to gain your insight into the focus of the extension service. The second will measure your assessment of your problem solving strategies. The final section assesses your self-efficacy beliefs. Self-efficacy is defined as the belief in one's capabilities to organize and execute the actions required to manage situations.

The information you provide in this survey will be kept confidential. Your participation is entirely voluntary. By completing a survey, you are consenting to participation in the study. A coding system will be used for follow-up purposes only and will be available only to the researchers. The information gathered by this study will be reported in the aggregate with no identification of individuals or information from individuals. Any risk to individuals involved in this research will be minimal. If you have any questions concerning this research, you may contact the researcher or Gay Clarkson, the Oklahoma State University Institutional Review Board Executive Secretary, at 203 Whitehurst, OSU, Stillwater, OK 74078, Phone 405-744-5700.

Your input is vital for the success of this study. Please take a few moments to complete this survey and return it to me in the self-addressed stamped envelope by March 5, 1999. Your prompt response will be greatly appreciated. I thank you for your participation in and support of this study.

Laura Gruntmeir
Extension Educator-Kingfisher County
405-375-3822

With the support of:

Michael Mills
Assistant Professor
Thesis Advisor

D.C. Coston
Interim Associate Director
Oklahoma Cooperative Extension Service

APPENDIX B

DEMOGRAPHIC QUESTIONNAIRE

Demographic Data Questionnaire

Your participation completing these questionnaires is voluntary. All information collected will remain confidential. By returning the questionnaire you are consenting to use of your reports for research. Individual data will never be revealed in any use of this information.

Year of Birth	
Gender	O Male OFemale
Highest Degree Earned	O Bachelors OMasters ODoctorate
Total years of experience in OCES	
Select one category that describes the major area of emphasis in your job. Please select only one.	O Family and Consumer Sciences O 4-H Youth Development O Special Projects O Agriculture/Horticulture O EFNEP and ONE Program

Thank you for your participation.

APPENDIX C

ATTITUDES TOWARD THE EXTENSION SERVICE SCALE

Attitudes toward the Extension Service

I am interested in your attitudes toward the Extension Service. I am interested in your opinions of the Extension Service as it is, not how you wish it to be. Please respond to the items below. Mark only one **X** for each word pair. Place an **X** on the lines provided, not the spaces in between. For example:

If you feel that the Extension Service provides solutions, place the X

provide solutions X ___ ___ ___ ___ ___ ___ provide resources

If you feel that the Extension Service provides resources, place the X

provide solutions ___ ___ ___ ___ ___ ___ X provide resources

Or if you feel that the Extension Service provides a combination, place the X in the space you feel is appropriate.

provide solutions ___ ___ ___ X ___ ___ ___ provide resources

---

Oklahoma Cooperative Extension Service

education	___	___	___	___	___	___	___	facilitation
generalization	___	___	___	___	___	___	___	specialization
initiating change	___	___	___	___	___	___	___	preserve the past
taking risk	___	___	___	___	___	___	___	minimizing risk
simple	___	___	___	___	___	___	___	complex
challenging	___	___	___	___	___	___	___	cautious
high tech	___	___	___	___	___	___	___	low tech
grassroots initiatives	___	___	___	___	___	___	___	top/down initiatives
brainstorming	___	___	___	___	___	___	___	structured analysis
neutrality	___	___	___	___	___	___	___	advocacy
rural	___	___	___	___	___	___	___	urban
flexible	___	___	___	___	___	___	___	rigid
autonomous	___	___	___	___	___	___	___	controlled
isolation	___	___	___	___	___	___	___	collaboration

APPENDIX D

PROBLEM SOLVING INVENTORY

The Problem Solving Inventory

FORM B

P. Paul Heppner, Ph.D.

Directions

People respond to personal problems in different ways. The statements on this inventory deal with how people react to personal difficulties and problems in their day-to-day life. The term "problems" refers to personal problems that everyone experiences at times, such as depression, inability to get along with friends, choosing a vocation, or deciding whether to get a divorce. Please respond to the items as honestly as possible so as to most accurately portray how *you* handle such personal problems. Your responses should reflect what you *actually* do to solve problems, not how you think you *should* solve them. When you read an item, ask yourself: Do I ever behave this way? Please answer every item.

Read each statement and indicate the extent to which you agree or disagree with that statement, using the scale provided. Mark your responses by circling the number to the right of each statement.

1 Strongly Agree	2 Moderately Agree	3 Slightly Agree	4 Slightly Disagree	5 Moderately Disagree	6 Strongly Disagree

1. When a solution to a problem has failed, I do not examine why it didn't work 1 2 3 4 5 6
2. When I am confronted with a complex problem, I don't take the time to develop a strategy for collecting information that will help define the nature of the problem 1 2 3 4 5 6
3. When my first efforts to solve a problem fail, I become uneasy about my ability to handle the situation 1 2 3 4 5 6
4. After I solve a problem, I do not analyze what went right and what went wrong 1 2 3 4 5 6
5. I am usually able to think of creative and effective alternatives to my problems 1 2 3 4 5 6
6. After following a course of action to solve a problem, I compare the actual outcome with the one I had anticipated 1 2 3 4 5 6
7. When I have a problem, I think of as many possible ways to handle it as I can until I can't come up with any more ideas 1 2 3 4 5 6
8. When confronted with a problem, I consistently examine my feelings to find out what is going on in a problem situation 1 2 3 4 5 6
9. When confused about a problem, I don't clarify vague ideas or feelings by thinking of them in concrete terms 1 2 3 4 5 6
10. I have the ability to solve most problems even though initially no solution is immediately apparent 1 2 3 4 5 6
11. Many of the problems I face are too complex for me to solve 1 2 3 4 5 6
12. When solving a problem, I make decisions that I am happy with later 1 2 3 4 5 6

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Read each statement and indicate the extent to which you agree or disagree with that statement, using the scale provided. Mark your responses by circling the number to the right of each statement.

1 Strongly Agree	2 Moderately Agree	3 Slightly Agree	4 Slightly Disagree	5 Moderately Disagree	6 Strongly Disagree

13. When confronted with a problem, I tend to do the first thing that I can think of to solve it 1 2 3 4 5 6
14. Sometimes I do not stop and take time to deal with my problems, but just kind of muddle ahead 1 2 3 4 5 6
15. When considering solutions to a problem, I do not take the time to assess the potential success of each alternative 1 2 3 4 5 6
16. When confronted with a problem, I stop and think about it before deciding on a next step 1 2 3 4 5 6
17. I generally act on the first idea that comes to mind in solving a problem 1 2 3 4 5 6
18. When making a decision, I compare alternatives and weigh the consequences of one against the other 1 2 3 4 5 6
19. When I make plans to solve a problem, I am almost certain that I can make them work 1 2 3 4 5 6
20. I try to predict the result of a particular course of action 1 2 3 4 5 6
21. When I try to think of possible solutions to a problem, I do not come up with very many alternatives 1 2 3 4 5 6
22. When trying to solve a problem, one strategy I often use is to think of past problems that have been similar 1 2 3 4 5 6
23. Given enough time and effort, I believe I can solve most problems that confront me 1 2 3 4 5 6
24. When faced with a novel situation, I have confidence that I can handle problems that may arise 1 2 3 4 5 6
25. Even though I work on a problem, sometimes I feel like I'm groping or wandering and not getting down to the real issue 1 2 3 4 5 6
26. I make snap judgments and later regret them 1 2 3 4 5 6
27. I trust my ability to solve new and difficult problems 1 2 3 4 5 6
28. I use a systematic method to compare alternatives and make decisions 1 2 3 4 5 6
29. When thinking of ways to handle a problem, I seldom combine ideas from various alternatives to arrive at a workable solution 1 2 3 4 5 6
30. When faced with a problem, I seldom assess the external forces that may be contributing to the problem 1 2 3 4 5 6
31. When confronted with a problem, I usually first survey the situation to determine the relevant information 1 2 3 4 5 6
32. There are times when I become so emotionally charged that I can no longer see the alternatives for solving a particular problem 1 2 3 4 5 6
33. After making a decision, the actual outcome is usually similar to what I had anticipated 1 2 3 4 5 6
34. When confronted with a problem, I am unsure of whether I can handle the situation 1 2 3 4 5 6
35. When I become aware of a problem, one of the first things I do is try to find out exactly what the problem is 1 2 3 4 5 6

	CON	AA	PC		
Page 1 Subtotal	_____	_____	_____		
Page 2 Subtotal	_____	_____	_____		
Score	_____	_____	_____	_____	Total

APPENDIX E

EXTENSION EDUCATOR'S SELF-EFFICACY INVENTORY

Extension Educator's Self Efficacy Inventory

Read each statement and indicate the extent to which you agree or disagree with that statement, using the scale provided. Mark your responses by circling the number to the right of each statement.

1	2	3	4	5	6
Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree

1. I can always manage to solve difficult problems if I try hard enough.	1	2	3	4	5	6
2. If someone opposes me, I can find means and ways to get what I want.	1	2	3	4	5	6
3. It is easy for me to stick to my aims and accomplish my goals.	1	2	3	4	5	6
4. I am confident that I could deal efficiently with unexpected events.	1	2	3	4	5	6
5. Thanks to my resourcefulness, I know how to handle unforseen situations	1	2	3	4	5	6
6. I can solve most problems if I invest the necessary effort.	1	2	3	4	5	6
7. I can remain calm when facing difficulties because I can rely on my coping abilities.	1	2	3	4	5	6
8. When I am confronted with a problem, I can usually find several solutions.	1	2	3	4	5	6
9. If I am in trouble, I can usually think of something to do.	1	2	3	4	5	6
10. No matter what comes my way, I am usually able to handle it.	1	2	3	4	5	6
11. I have the skills necessary to be an effective leader.	1	2	3	4	5	6
12. I have the diagnostic skills to assess the effectiveness of my programs.	1	2	3	4	5	6
13. I am able to make effective presentations to groups.	1	2	3	4	5	6
14. When a client has a concern, I am able to clarify and restate it in a helpful manner.	1	2	3	4	5	6
15. It is easy for me to write effective professional correspondence and memos.	1	2	3	4	5	6
16. When parents or community members become involved in projects, it is because I make special efforts to enlist their help.	1	2	3	4	5	6
17. I am skillful at scheduling activities involving my job.	1	2	3	4	5	6
18. When an event runs more smoothly than usual, it is because I exerted extra effort.	1	2	3	4	5	6
19. I have skills in working with groups that allow them to work effectively and efficiently.	1	2	3	4	5	6
20. If a client becomes angry or upset with me, I feel assured that I can handle those outbursts.	1	2	3	4	5	6
21. I am able to handle the unexpected events that arise during the course of the day.	1	2	3	4	5	6
22. Extension Educators make a difference when they are able to handle the tasks of their job.	1	2	3	4	5	6

APPENDIX F

INSTITUTIONAL REVIEW BOARD

APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

DATE: 01-22-99 **IRB #: ED-99-074**

Proposal Title: RELATIONSHIP BETWEEN OKLAHOMA EXTENSION EDUCATOR' PROBLEM SOLVING STRATEGIES AND THEIR SELF-EFFICACY BELIEFS

Principal Investigator(s): Michael Mills, Laura Gruntmeir

Reviewed and Processed as: Expedited

Approval Status Recommended by Reviewer(s): Approved

Signature: Carol Olson Date: January 22, 1999

Carol Olson, Director of University Research Compliance
cc: Laura Gruntmeir

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modification to the research project approved by the IRB must be submitted for approval. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

VITA

Laura Garrett Gruntmeir

Candidate for the Degree of

Doctor of Education

Thesis: THE RELATIONSHIP AMONG OKLAHOMA EXTENSION EDUCATORS' ATTITUDES TOWARD THE EXTENSION SERVICE, PROBLEM SOLVING STRATEGIES AND THEIR SELF-EFFICACY BELIEFS

Major Field: Higher Education

Biographical:

Personal Data: Born in Oklahoma City, November 12, 1965; the daughter of Robert and Jane Garrett.

Education: Graduated from Putnam City North High School, Oklahoma City in May, 1984; received a Bachelor of Science degree in Consumer Affairs from Kansas State University, Manhattan, Kansas in May, 1987; received a Master of Human Relations degree from the University of Oklahoma, Norman, Oklahoma in December, 1991. Completed the requirements for the Doctor of Education degree at Oklahoma State University in July 1999.

Professional Experience: Personnel Director, Equity Bank for Savings, June 1987 to January 1990; Administrator, Redlands Community College, January 1990 to August 1994; Director of Evening/Weekend Studies, University of Central Oklahoma, August 1994 to July 1995; Extension Educator, Oklahoma State University, July 1995 to present.

Professional Organizations: Certified Mediator for Alternative Dispute Resolution System, Certified Family Life Educator, Certified in Family and Consumer Sciences, Kappa Delta Pi, Phi Omicron Nu.